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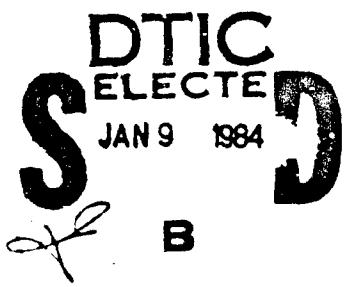
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THE MONGOL WARRIOR EPIC: MASTERS OF  
THIRTEENTH CENTURY MANEUVER WARFARE

A Thesis presented to the Faculty of the U. S.  
Army Command and General Staff College in par-  
tial fulfillment of the requirements for the  
degree  
MASTER OF MILITARY ART AND SCIENCE

by  
RICHARD D. McCREIGHT, MAJ, USA  
B.A., Washington State University, 1971



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Approved by:

Raymond A. Callahan  
Dr. Raymond A. Callahan, Ph.D., Thesis Committee Chairman

Edward J. Drea  
Dr. Edward J. Drea, Ph.D., Member, Graduate Faculty

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## ABSTRACT

THE MONGOL WARRIOR EPIC: MASTERS OF THIRTEENTH CENTURY MANEUVER WARFARE  
by Major Richard D. McCreight, USA, 175 pages.

This study attempts to illuminate some prevailing myths about the Mongol warrior. The investigation is focused on a review of the Mongol steppe warrior himself, his leadership with emphasis on Genghis Khan, the Mongol army's organization and doctrine, and a review of five selected battles demonstrating Mongol efficiency in war.

Investigation reveals that the Mongol warrior epic was more than a series of invasions across Eurasia by barbarian hordes. The Mongol application of strategic, operational, and tactical doctrine in the field was quite sophisticated and predates maneuver-oriented combat thought of this century by over 700 years. The void in military history and teaching of it can and should be filled by an understanding of the Mongol warrior epic, based on fact, not myth.

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## PREFACE

The T'ai-yang asks 'Who are those that pursue our men in the manner of wolves pursuing a flock of sheep to their very pens?'

Jamukha responds 'They are the four hands of Temuchin, fed on human flesh, he keeps them on an iron chain; their skulls are brass; their teeth like chisels; their tongues like bodkins; their hearts of iron. Instead of horsewhips, they carry curved swords. They drink dew, they ride with the wind, in battle they devour human flesh. Now they have been unleashed; their spittle runs; they are full of joy. These hounds are Jebe, Kubilai, Jelmci, and Subedei.'<sup>1</sup>

So replied Jamukha to his temporary ally in the war against the Mongols at Mount Naku in the year 1204. His recorded description is an example of the exaggeration by not only the Chinese scholar who originally put the comment on paper, but also of the exaggerations spread about in areas not yet visited by the Mongols and which still exist today.

This thesis will attempt to dispel some of the myths and shed light on the Mongol warrior epic; give a perspective for rational study and possibly assist others in an investigation of a truly remarkable group of soldiers.

## CHAPTER 1

### THE SOLDIERS FROM TARTARUS

#### PART I

This thesis aims to provide today's soldier and scholar an introduction which gathers together many of the far flung pieces of the gigantic puzzle of the Mongol warrior epic. Through this thesis the soldier-scholar will be able to grasp the essence of the Mongol military system, its' efficiencies, and reasons for success which rank it as one of the most powerful and amazing military systems in history.

My intention in undertaking this task is to provide a study of the characteristics of the Mongol military system because few detailed descriptions exist today. There are lengthy works which deal superficially with the military aspects of the adventure, since they focus on the social, economic, demographic, and big picture of the Mongols; which overshadow the intricate military aspects which soldiers need most.

These efforts will apply to any field of soldiering which requires the guidance of men in or near combat. The Combat Service Support soldier will find a logistic system which although simple, was carefully planned

and skillfully executed. The Combat Support soldier will see the roots of fire support combined with maneuver. The maneuver came first, then after a series of setbacks, the Mongols learned and applied the basic truths of fire support to enhance their operations. The Combat Arms soldier will be both impressed and be able to learn from the achievements of a warrior force which very rarely outnumbered its opponents.

## PART II

### REVIEW OF THE LITERATURE

Review of the literature was fruitful in many ways. Unrestrained by the intent of the thesis, I was committed to reviewing all manner of secondary sources which were remotely and specifically associated with the Mongol warrior epic.

I consulted Sir Henry Howorth's huge volumes on The History of the Mongols, written from 1876 to 1927. Howorth's five volumes have since been considered the preeminent source of English translated Mongol information. The source lacks an index which hampers quick reference. The briefest work reviewed was Chingis Khan and the Mongol Empire by Malcolm Yapp, of only 32 pages. It is too brief and meant for a secondary school audience.

The best bibliography I found was by Henry G. Schwarz of Western Washington University titled Bibliotheca Moncolica. This outstanding work contains just short of three thousand works on the Mongols and Mongolia. It is divided into major subheadings of language, geography, etc. by years published, rather than alphabetically by author. This excellent work contains information on any facet of Mongol/Mongolian life from art to warfare. It had accurate sources which proved invaluable in my research.

Professor Schwarz has few kind things to say about Harold Lamb's works which I had thought were fairly important in Mongol studies. A similarly titled bibliography of books by Chang Chih-Yi, Bibliography of Books and Articles on Mongolia, printed in 1950, was of lesser value to me as it concentrated on social and economic issues that were current in that decade rather than historical work. There were no military related works in this book.

The best general work, covering some of the military aspects of the Mongols but also the political, economic, and historical impacts, has been J. J. Saunders in his work The History of the Mongol Conquests, published in 1971. Peter Brent, writing in the popular style, does good work in stressing the interrelationships between the Mongols and other societies of the era in The Mongol Empire. Lacking footnotes, the book loses some of the value it could offer the technical researcher, especially in that it contains a reference to the actual words spoken by Genghis Khan when he issued orders to his generals on the specific maneuver and battle formation for an engagement. To have this seed be untraceable was particularly frustrating.

If Brent was frustrating, the military writings of the 1928-1933 era were enlightening. The earliest volume on the Mongols written by a military scholar was Charles Johnston's Famous Cavalry Leaders, published

in 1908. While a short work, in the popular style, Johnston provides a clear picture of Mongol operations. Not until 1928 does another work appear, written by a military-oriented author. Liddell Hart's Great Captains Unveiled, while serving to support his ideas for mechanization of armies and the primacy of mobility, manages to capture the essential elements of Mongol operations. Hart's book sparked four other military men to write articles on the Mongols in the period 1929 to 1933. Of these four, only C. C. Walker, in the Canadian Defence Quarterly of 1931-1933, provides an in-depth, analytical treatment of the Mongol. The others are sparse at best. C. C. Walker provides a detailed review of the Mongol campaigns, evaluated against the 1930 perceptions of war fighting. Not until eleven years later, in 1944, does another scholar write about the applicability of a study of Mongol operations. Harold Lamb, writing for the Infantry Journal Reader, provides interesting and valuable comparisons between Mongol operations and the German blitzkrieg. For another twenty years the pages of the military journals were silent until Richard Devereaux, writing for the Military Review in 1963, offered a valuable analysis of Genghis Khan's Yassa (Mongol Code of Conduct).

The most recent work reviewed, published in 1979, was James Chambers's The Devil's Horsemen. Written without footnotes, the book is still a valuable research work since it gives a concise yet comprehensive review of Mongol operations in Europe, their tactics, and the meaning of those incursions for us today.

The greatest single problem encountered in the review of the literature was language. Frustration and confusion continually confront the researcher of the Eastern peoples as no two historians ever called anything by the same name. People, mountains, villages, cities, and rivers are consistently either renamed entirely or are written as an approximation of the commonly read name. The problem is not simply a translation of Chinese, Armenian, Russian, or Persian into English. Western authors, writing a tertiary work often rearrange or respell a name without explanation. Even if an explanation is offered it makes little sense to a non-Sinologist.

This thesis uses what appears to be the most commonly accepted names. There is no attempt to make any linguistic corrections. The one deviation from this rule will be the citations of source titles and any quotations which will retain original spelling.

## PART III

### Overview of the Mongol Warrior

The warriors we commonly refer to as the Mongols were a nomadic tribe of herdsmen from an area in central Asia. Significantly they were one of approximately nine very similar tribes in the central Asian area but each of these tribes had their own culturally distinctive features. The Uighurs, living to the southwest, while not culturally dissimilar from the Mongols, enjoyed a written language which the Mongols did not. To the north, the Buriats used reindeer as their beasts of burden but the Mongols were unfamiliar with the animal. Prior to and up to the end of the twelfth century, then into the early years of the thirteenth, living as nomads, the Mongols did not till the soil or build cities. Later, in the Mongol era of Kubilai Khan in the mid-thirteenth century, they began to build cities and live in fixed villages. In this thesis, the period covered generally begins and ends with the Mongols a nomadic people.

Initially then, the Mongols were a member of a multi-tribe population of central Asia, competing for ground and resources with their neighbors. As their power grew and alliances were formed, the composition of the armies grew less and less purely Mongol. A convenient beginning of Mongol ascendancy is the year 1194, when Temuiin, as Genghis Khan was originally named, destroyed his foster-father's tribe, the powerful Keraits, in a

retaliatory raid. After this victory, Genghis took in many of the Kerait warriors and so began the melding of various tribes into his Mongol army. This acquisition of foreign troops continued until its zenith in 1294, when as many as fifty separate and distinguishable peoples were a part of the massive Mongol organization.

The Mongols were not Tatars or Tartars. Historically there has been much confusion between the two but the two names (Mongol and Tatar) are not synonymous. Before and during the rise of the Mongols, the Tatars existed as an independent tribe, living about two hundred miles southeast of the Mongols. The Tatars were subdued and incorporated into the Mongol army just like every other tribe and nation-state the Mongols overcame.

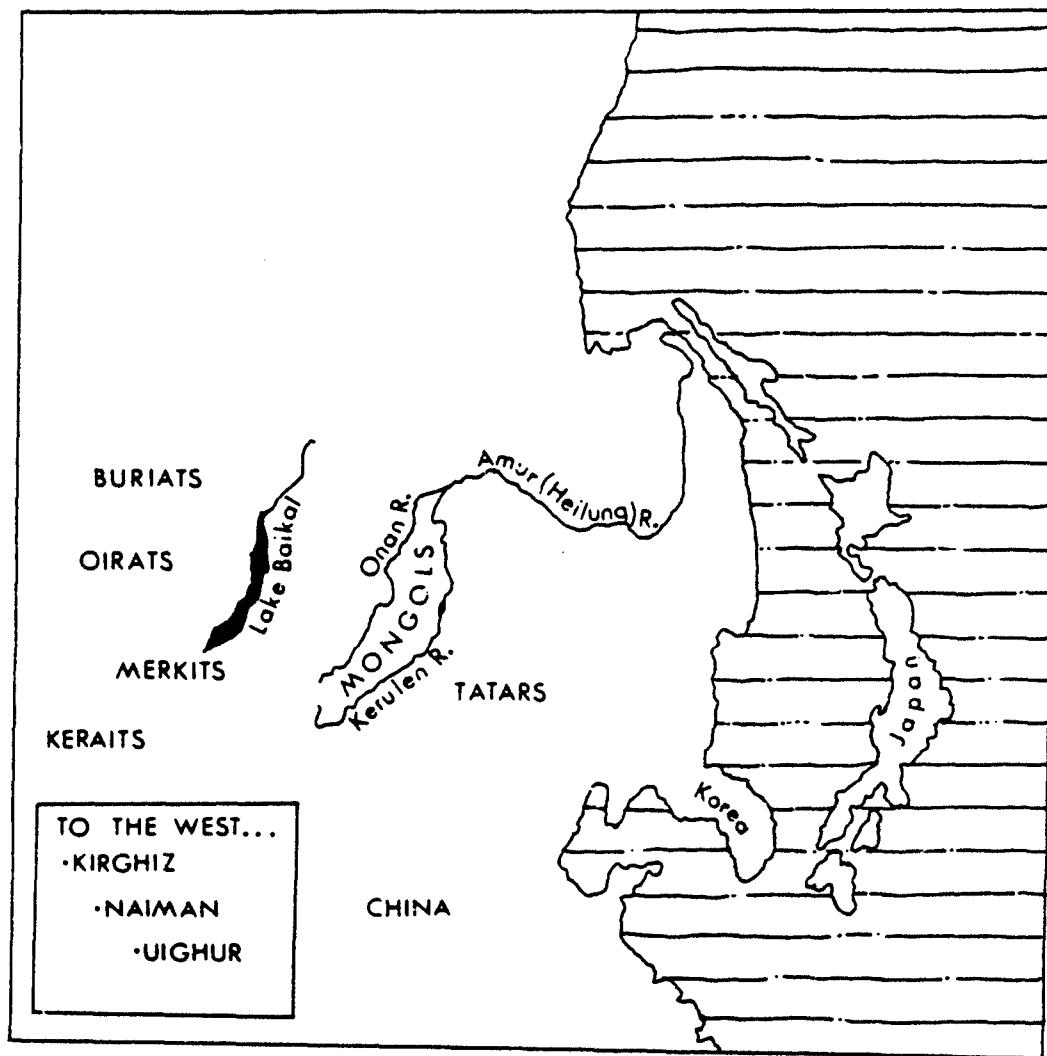
In the chapter title, I alluded to a belief of Europeans that the Mongols came from a place called Tartarus which, at that time, meant Hell<sup>1</sup>. Even if this was a convenient way to describe them, the Mongols did not come from Hell. From that title, it is probable that the misapplication of the name Tartar became fixed as the accepted name for the Mongols. A similar inaccurate nicknaming occurred in World War I, with the Germans being called Huns. Besides being separated by over fifteen hundred years, the only similarity between the two might have been in their military efficiency.

Once military expansion began, the Mongols, although initially a homogenous organization, were to rapidly lose their intrinsic cultural identity due to the influx of other warriors from tribes and states which were conquered either by force or persuasion. The reader is advised to keep this heterogeneous character in mind as he reads of the tremendous achievements of this mighty military force.

Another word of caution as to what the Mongols were not. The word "horde" is a bastardization of the Mongolian word ordu which means "tent village of the clan."<sup>2</sup> By translation, fear, ignorance, and repeated use in historical writing, the popular reference to the Mongols as the "horde" has achieved general acceptance. Most dictionaries now give a simple definition of the word horde. Defined as a "large, moving throng (noun) or to gather in a horde (verb)"<sup>3</sup> or "a tribe or clan of Asiatic nomads; a massed gathering of a savage or uncivilized people; a fierce and powerful Mongol horde...,"<sup>4</sup> I submit that the association of the word horde with the Mongols is convenient but historically incorrect. The Mongols were not a horde as commonly thought of but a well organized, brilliantly led, masterfully controlled organization of variegated warriors who, albeit destructive beyond imagination, achieved military feats unequalled before or since their time.

The Mongols originated in an area roughly northwest of the current eastern juncture of the borders of Russia, China, and Mongolia. The

Amur (Heilung) river, whose mouth is on the Sea of Okhotsk, runs upstream generally westsouthwest towards Lake Baikal in central Asia. The Amur divides into the Onan and Kerulen rivers about five hundred miles east of Lake Baikal.



MAP 1

GEOGRAPHIC ORIGIN OF THE MONGOLS

The area between these two rivers is where the tribe known as the Mongols is recognized to have begun making their mark on world history. It is important to fix this location, as the ability of a supposedly illiterate nomad to go from this humble origin to conquer Eurasia from the Pacific Ocean to the Black Sea is no small feat.

Before concluding, a word about the character of the individual Mongol warrior is appropriate. Remembering the conglomeration of soldiers that eventually grew out of the Mongol victories, the characteristics cited here are truest for the "pure" Mongol warrior. I include the nine tribes of central Asia as possessing a large part of these characteristics. As nation states and other tribes added their numbers to Genghis Khan's ranks, the characteristics quite naturally became less obvious and more diffused by geographical location, inbred cultural differences, (i.e. Chinese, Persian, Turkoman, etc.), and to some extent, religious convictions.

The most significant, yet simplest, characteristic of the Mongol warrior was his self-discipline. He was so not only in the strength afforded him by his natural everyday existence in the cruel harshness of steppe living, but more importantly, in his unswerving devotion to duty, willingness to sacrifice all for the military mission at hand, and unparalleled loyalty to his commander and comrades.

While several societies enjoyed the protection of troops somewhat similar to these, the discriminator is that under the organization and leadership of brilliant generals, which the Mongols enjoyed, these other societies could not compare. The single reference to another culture of the era exhibiting traces of this prowess was a very complimentary one given by the Mongols to the Teutonic Knights, Knights Templar, and Hospitalers who were crushed by the Mongols at Leignitz in 1241. After the battle, the Mongols apparently expressed admiration for their foes who had demonstrated a fearlessness and discipline unseen in any previous opponents. A natural horseman from childhood, riding before he walked, the Mongol could ride for days on end, using remounts, during the coldest winter with little food and no rest, and then willingly fling himself into battle without hesitation. A spirit of contempt for death pervaded his mentality. The reason goes beyond the simplistic solution that life in medieval Asia was cheap, or the notion that unquestioning obedience was fostered by a powerful and unforgiving leader who imposed his will and demanded loyalty under pain of immediate death. While the threat of harsh punishment may have had an affect, the real reason lies much deeper.

During the first Russian campaign of Subedei (1221-1223), ten warriors of an envoy sent to the Russians by Subedei, one of Genghis's Army commanders, were killed. All Subedei sought from the Russians was freedom to pursue some elusive Kumans. He did not want war with the Russians. Subedei, a patient man, dispatched two more warriors to entreat the

Russians to avoid war and allow the Mongols to capture the elusive Kumans. The Russians were "astounded at the contempt for death with which the two Mongols had ridden into their camp."<sup>5</sup> This contempt for death bears examination. A theory exists that postulates that the Mongols trained themselves to not fear death. Using a combination of Chan (in Japan, Zen) precepts, their own perceptions of the meaning and reason for life, and partially driven by military requirements of Genghis Kahn's tactical operations, the Mongols were able to create a submersion of the personality, thereby voiding the otherwise instinctive fear of death and harm.<sup>6</sup> This submersion was epitomized by a military unit, controlled as a kind of shock troop reserve by Genghis personally, called the Mangodays. Unencumbered by normal human responses, these Mangodays were the ultimate weapon of terror and military efficiency. Personally committed to battle with the order of the Khan of Khans, the theory claims more than one battle was won, after swaying indecisively for a period of time, by this unstoppable force of death-defying men. They were devoted to the act of war and feared absolutely nothing, except, and here is the key, failing in their mission and living to tell about it.

Another theory on the use of the Mongudai (sic) is that they were the force employed in the standard Mongol deception of feigned retreat.<sup>7</sup> Details of this deception tactic are given in Chapter 4. Chambers says that the Mongudai were called such because of their great courage. By riding outnumbered into battle with reckless abandon and creating as much havoc as possible in the enemy ranks, then withdrawing to entice the enemy

to chase them into the inevitable Mongol trap, they influenced the battle by creating an advantage for the Mongols.

Such a mentality must have assuredly spread by simple osmosis to the other warriors of the Mongol empire and become, to a lesser degree, an accepted standard of behavior. Therefore, by his remarkable self-discipline, founded in a hard and cruel life on the steppe, and military skill, based on his natural horsemanship and expertise with the bow, and possibly an overriding 'contempt for death,' the Mongol warrior was the figure of great military efficiency during his era. There is a similarity between this mentality and the Moslem thought that the greatest feat is to give oneself in battle for Allah. The genesis of this Moslem thought was when Mohammed was leading his small force of loyal followers into the attack against the jealous and bigger force of Meccans who opposed Mohammed's rise to power. As they crossed over the wall Mohammed promised that any of his followers slain that day would be in Heaven with Allah.<sup>8</sup> While there is no Mongolian source which refers to anything similar in the Mongol warrior, the Chinese were forced to admit that "he [Genghis Khan] led his armies like a God."<sup>9</sup>

Perhaps the Mongol warrior truly perceived their supreme Khan as a "God," therefore willing to die for him, but there is no question that the steppe warriors were fanatically loyal to Genghis. Some scholars, Lynn Montross and Peter Brent, for example, believe they were loyal only

as long as the plunder and loot of war were readily won, and that the acceptance ". . . of the ruler by the ruled depends upon a degree of happiness which only an increasing scale of rewards can bring."<sup>10</sup> I disagree with this estimate. Genghis and his subordinate chiefs inspired great loyalty in their warriors which transcended simple greed and avarice for loot. The leadership techniques creating this loyalty and the training which supported it will be addressed in detail in later chapters.

Given that capsule version of Mongol background, what follows is a digest of many sources, secondary and tertiary. Available primary works are few and require researchers to be fluent in at least five different languages. The Mongols left little written record in their destructive path, swaying back and forth across Asia and Europe, sometimes two or three times across the same ground, destroying the recently written records of their activities. Great libraries and centers of learning with unrecoverable manuscripts and scrolls were reduced to ashes in their wake. In a place called Bokhara, about 125 miles west of Samarkand in southern Russia, the Jewish scribes cannot produce any manner of recorded data prior to the year 1220, even though they have done their scholarly work there since approximately 100 A.D.<sup>11</sup> The destructive efficiency of the Mongols has left the world few documents concerning their specific activities. Subsequent translations of these few are all the single language researcher has to learn from.

## CHAPTER 2

### THE LEADERSHIP OF GENGHIS KHAN

There is no hero equal to Yisunbeg, and no man as skillful, but not knowing fatigue and hardships on campaign, he thinks that everyone has his endurance. Yet others cannot stand so much. Therefore, Yisunbeg is not fit to be chief over his troops. Only a man who feels hunger and thirst, and by this estimates the feelings of others, is fit to be commander, as he will see that his warriors do not suffer from hunger and thirst and that the four-footed beasts do not starve. The meaning of this is that the campaign and its hardship must be in proportion with the strength of the weakest warriors.<sup>1</sup>

Genghis Khan understood that a man's greatest strength is also his greatest weakness. When Genghis was conferring with his generals (in the quote above) on the selection of a new chief for one of his armies, he declined the selection of Yisunbeg. Genghis saw that although Yisunbeg displayed the finest fighting qualities and admired him for them, Yisunbeg could not be chosen since he cared little for the needs of his troops. Genghis decided instead to form a new unit of soldiers with a special mission and made Yisunbeg their chief. The new unit was the Mangodays. This is an example of the perceptive brilliance of Genghis Khan as a military leader. He demonstrated not only superb military leadership qualities but also the leadership required to organize and manage the political, economic, and social requirements of the world's largest empire. Through formal schools, personal counselling, complete with visits to a battle area to discuss a subordinate's conduct of the fight, he

developed in his leaders the same excellent leadership qualities he possessed, which were to carry him and his generals to the tremendous achievement of the Mongol empire.

To understand the leaders, it is important to understand those they led. Life on the steppe was a struggle of man over the elements. Cold, bitter winters accompanied by high winds and the subsequent wind chill combined with hot, dry summers under a merciless sun made the Mongol warrior physically tough and enduring. Having few creature comforts and depending on herds of animals for food caused the steppe dweller to be psychologically very simple and efficient. If the Mongol, or any of his similarly cultured nomadic neighbors needed something he didn't have, he took it from those who did have it. Peter Brent advises that they were

. . . quarrelsome, and the lands they moved through were littered with the remains and the memories of a thousand pointless battles, a hundred thousand pernickety disputes. The rise of one brought the jealousy of another; the lush grazing of a rich clan brought down on it a retribution of the struggling; the decimation of a flock by winter would be followed in the spring by a decimation of those whose flocks had survived."<sup>2</sup>

Combat with nature was not dissimilar. He had to act first or nature would strike him down without remorse. He had to read the weather, anticipate storms and blizzards, become a human compass with an unerring sense of direction. Observers have noted the Mongol could ride on the steppe for days with few, if any, landmarks and ride right up to a water source. While this ability may be accounted for as raw instinct, the Mongol warrior

was not an unthinking savage. He weighed alternatives, evaluated courses of action, then decided. He attacked his tormentors with his natural skill as a warrior or struck camp and moved swiftly to avoid the coming storm with its killing cold. The unforgiving elements and his unrelenting foe were not long in imposing their will on him if he was slow to act. Decision making was therefore a rapid process.

Leadership then had to be decisive and swift. There was no room for those who wavered and made the same mistake twice. The requirements for a leader to gain and maintain control of the tribe or clan in central Asia were complex. A leader of a tribe of Uighurs, living to the southwest of the Mongols, had to deal with a mixed economy of farmers and herdsmen. The leader of a tribe of people on the fringe of the Manchurian agricultural belt to the east did not have to be concerned with requirements of a nomadic people. His prime concern was agricultural processes supporting a sedentary people. The leader of the nomadic Mongols faced two basic problems, security of the tribe from incursions by other tribes and moving the herds at the right time to avoid the killing winter or to find new pasture.

The incursions of other tribes ranged from robbers and kidnappers to outright intratribal warfare over the same issues that plague man today: territorial rights, simple greed for power, and wealth. Moving the herds at the right time was not a difficult task, but if the leader did not have control over the routes to the pasture or could not gain access to

them past their neighbors, then the leaders effectiveness became questionable. If the leader could maintain control of the events around the tribe then his position was secure.

Conversely, if a leader could not manage these two basic tasks in addition to the myriad of other events that require the attention of all leaders, then he was swiftly abandoned for a leader who could do it. Some leaders were murdered, others exiled, but some were simply replaced and became a subordinate to the new leader. This rapid defection of the followers to a more capable leader was necessary to insure survival. Loyalty was based on the leader's ability to fulfill the few basic needs of the people, and if he could not, the defection occurred at first sign of weakness. The defection could take the relatively simple form of the people aligning themselves under a new leader in the same tribe or be as drastic as the entire tribe joining another more powerful tribe. Into this environment came Genghis Khan, who had to build his military structure with this tenuous personal loyalty being a prime concern.

Genghis' father, Yesukai, was the leader of an estimated forty thousand yurts (the Mongol felt tent)<sup>3</sup>. Genghis inherited the leadership of the Boriiigan clan of the Mongols when his father was poisoned by Tartar (sic) neighbors bent on revenge for raids conducted on their herds by the Borijigans. Immediately the mass defection began, because the clan had neither the confidence in nor the loyalty to the new, inexperienced, thirteen year old leader. Scholars disagree on exactly how many of the'

clan seceded. Estimates range from everyone, according to Vladimirtsov<sup>4</sup> and Vernadsky<sup>5</sup>, to about half the clan. Those who remained with him were persuaded forcibly by warriors loyal to his mother<sup>6</sup>. Genghis thus learned at a young age the hard facts of the type of leadership which would be required to maintain a position of power. His mother continued to play a very important part in his youthful development by guiding and counselling him as he grew to manhood and the responsibilities of a tribal leader. She remained in his tent throughout the remainder of his life and provided him with wise counsel until her death.

Genghis was a member of an aristocratic line of chiefs of the steppes and acted accordingly. With his mother's encouragement (retelling the stories and legends of the family lineage) he developed a sense of his destiny very early in life. His vision of the future was supported by two factors. First he mastered the soldier skills of the steppe warrior with ease and routinely set the example for his peers, thereby building a spirit of confidence in himself and his natural ability to lead, which fostered the warrior's confidence in him. Second, while developing his position among the Mongols, he came into contact with other cultures, Chinese and Turkoman.

The Chinese advisors were to bring with them the idea of the mandate or support of heaven, with the power enjoyed by the leader being bestowed by heaven. The Mongols had long since held the notion of the deified sky as God, a belief widespread among shamanistic Turco-Mongolian peoples of

inner Asia<sup>7</sup>. The influence of the Chinese advisors and sages was to encourage the use of the sky-God as the source of Genghis' power, combining this with the Chinese philosophy of an emperor being designated by the powerful heaven, therefore entitled to rule all men. This created for Genghis Khan a legitimacy for his vision of the Mongol destiny. The combination of an accepted God-figure (the Turkoman sky-God) with the Chinese idea that Heaven determines who will be king, and that this kingship requires the holder to be the leader of all men, created for Genghis a strategic vision of political unity and tribal cohesiveness, vice constant fighting, which is an idea not normally held by nomadic people<sup>8</sup>. Genghis took his strategic vision of a Mongol dominated world empire seriously. How seriously is shown in the rather haughty and contemptuous letters his scribes sent to the corners of Eurasia demanding tribute and fealty. For a nomadic leader to take this position was not, of course, completely new to the twelfth century or to other sedentary societies. The Chinese emperors held this idea as did the Moslem Caliphs following Mohammed six centuries earlier. Khalid, the successor of Mohammed, inflamed with a vision of a Moslem world ruled by a single leader, was known as the Sword of God.

The difference between the Mongols and, for example, the Orkhan Turks, who had a similar view of their position in the world arena, was that Genghis Khan, using the combination of his military skills and his strategic vision of world rule, legitimized by the Chinese advisors influencing him, was able to achieve a unity of effort of the tribes of the steppes unknown before his time. This unity was created by his awesome personal aura, his military

efficiency, and to some extent, a propaganda campaign which preceded his operations and sometimes won over the support of other tribes and states without war. While this synopsis of Genghis's strategic motivation is reasonably clear, assessments of his personality remain controversial.

Critics of Genghis's personality can be divided into two general camps. Both sides agree that he was an egocentric power seeker but disagree on evaluations of his conduct. Harold Lamb says that Genghis had a "latent savagery which drove him at times into a fury of destruction."<sup>9</sup>

Barthold, however, paints a picture of an assuredly aggressive leader; having "immense self-control" and that there is little evidence of the "useless or stupid" cruelty, commonly attributed to him, since every action to "exterminate" was taken for a distinct, defined purpose.<sup>10</sup> He treated his subordinates and their failures with temperance and judgment unclouded by emotion. He was receptive to bad news as it affected all aspects of his empire and dealt with the problems openly. His conduct must have been of the latter nature, otherwise there is little to explain the many defections of Chinese, Turkoman, and Persian soldiers and leaders to his camp. Dissatisfaction with their own leader's conduct would not be enough to cause these other warriors to defect to Genghis if the conditions and long-range advantages of defecting to him were not attractive.

Genghis demonstrated a loyalty to his subordinates, defectors, and those subjugated which developed into a reciprocal arrangement. By his example,

his followers grew to be loyal not only to him personally, but, more importantly, to the Mongol strategic objective. He would place talented defectors and new allied chiefs of other tribes and clans in positions of responsibility and leadership in his armies and send them on independent missions with powerful forces. By doing so he demonstrated a confidence in their loyalty and they in turn remained steadfastly loyal to him. Besides his military victories, this is one of Genghis's greatest leadership triumphs. He welded together clans, tribes, and states which for centuries had been entirely self-centered and egocentric. The loyalty to self and immediate protector was supplanted by a loyalty to a leader many times removed and, significantly, to the Mongol strategic cause.

He created a chain of command which was a marvel of efficiency, in that he let his subordinates enjoy freedom of action with their armies and generally did not call them to account to him for their conduct. This does not imply that his generals rode around directionless. The direction and objective of the armies were established during planning for the campaign, but the conduct of the battles each army might engage in was left to the army commander. Genghis provided a mission-type order and left the execution to his subordinates. Obviously, if an army's operations went poorly he wanted to know why. During the pursuit of Jelalaldin (son of Mohammed, the Khwarezim Shah) to the Indus river, one of his generals mishandled a battle with the Persians protecting Jalalaldin's retreat. After the battle was over, Genghis and his general went to the battleground and talked about the tactics, maneuvers, and decisions made by the general,

in order that the general would learn from his mistakes.<sup>11</sup> Genghis was known to routinely hold post-operations critiques with his army commanders to review lessons learned and enable the generals to learn from each other's experiences. There was, however, an area in which Genghis allowed little flexibility. If a subordinate of one of his generals displayed disloyal behavior and Genghis knew the man personally, Genghis reserved the right to punish the offender. When dispatching his two generals, Subedei and Batu, on their great raid, actually a reconnaissance in force mission to Europe (1237-1242), he realized the extended distance would denigrate his personal influence on the mission. Genghis therefore directed that anyone who he knew, charged with disloyalty to the command, should be sent back to the Gobi for his attention. He was intolerant of disloyalty since it eroded the confidence of the troops and was very damaging to a carefully constructed alliance of otherwise antagonistic peoples who were welded together to achieve the strategic objective of the Mongols. Even though he reserved this right to punish offenders, personally known to him, this did not cause any reduction in the cohesion and trust he enjoyed with his generals. This spirit of mutual trust and maintenance of the strategic objective between Genghis and his generals created a fusion so intense that the breakdown of the empire would not occur until over a hundred years after his death. At the great council to elect a new Khan (after his death), a power struggle occurred among his powerful subchiefs to be named the new Khan of the empire. Flaring tempers, heated discussions, and much political maneuvering pervaded the council. However, once the new Khan, Ogedei, was elected,

allegiance and loyalty were immediately given to him. He lacked the personal magnetism of Genghis, but due to the unwavering belief of the sub-chiefs in the strategic direction and vision of Genghis Khan, Ogedei enjoyed their loyalty throughout his reign. It would be a century until the influence of other cultures, coupled to regional requirements of each of the four Khans occupying areas from the Black Sea to China, broke the by then tenuous bonds of the Mongol empire.

This freedom of action and mutual loyalty created an atmosphere of remarkable military efficiency. Genghis and many of his generals, conducting operations independent of the Khan, outclassed many of the favorite generals of history. Walker notes that there are lesser Mongol chiefs who rode farther, crossed higher mountains, and fought several battles which were of equal or greater scope than those of Hannibal at Cannae. Hannibal's maneuver-to give way in the center, draw in the main body of the attacker, then crush him with his flanking cavalry-was an oft-repeated tactic employed by the Mongols in all their campaigns across Eurasia. Alexander fought fewer enemies and battles and stormed fewer cities than Subedei during the expedition from Manchuria to the Crimea. The Mongol cavalry achieved some of its greatest achievements in the snows of Russia which crushed Napoleon.<sup>12</sup> Granted the Mongols were not opposed by a cohesive Russian nation-state in the thirteenth century, the weather nonetheless was used to support and assist their operation rather than being allowed to devastate their army. Napoleon's problems with security of his lines of communication pale before those of Subedei, whose lines of communication stretched for several thousand miles across Eurasia.

J. J. Saunders, in comparing Genghis to another famous military leader, capsulizes the Khan's tremendous ability.

Hitler may have owed something to him, for the Blitzkrieg and the deep drives into the enemy's defenses and the trappings of the whole armies, as in the Barbarossa campaign against Russia in 1941, are strongly reminiscent of Mongol strategy and tactics. But in many ways the Mongol was cleverer than the Nazi. Hitler took insufficient pains to acquaint himself with the strength and resources of the enemy and provoked a worldwide coalition against him. Chingis foes were never able to combine against him, partly owing to his control of the interior lines of Central Asia, they could make no contact with each other, so that China, for example, could not ally with Persia or Russia.<sup>13</sup>

Saunders' comment to the similarity between the Barbarossa campaign and Mongol strategy and tactics may be too broad. The tactics were assuredly different but the strategies do have similarities. The attack into Russia of three armies on separate routes, each with a deep objective, is very similar to Mongol strategic operations in all their theaters of operation. In China, Turkestan, and the European invasion, the Mongols' strategic maneuver was to penetrate the frontiers with flying columns on separate routes, striking the frontier in three or four places simultaneously. Also, the likelihood that the Persians or Russians could have allied themselves with the Chinese, even if they had had access to the lines of communication, is problematic. The poor showing of the Russian princes against the Mongols, giving one of history's fine examples of how jealous infighting can doom an expedition from the start, demonstrates that an alliance with another culture would not have succeeded anyway.

Harold Lamb also establishes a connection between the German blitz-krieg and the Mongol military system. He notes that "the Germans were the first to analyze the Mongol campaign from a military point of view."<sup>14</sup> The earliest work they used was published in 1865, followed by a study of Mongol operations in Poland and the surrounding areas.<sup>15</sup> The Russians studied the Mongol campaigns in their staff college and General George S. Patton and Erwin Rommel were known to have studied the operations of Genghis and Subedei in Persia. If imitation is truly a sincere form of flattery, then the Mongol has received his fair share.

In summary, how best to describe this often misunderstood leader of the Mongols? The convenient term of barbarian or blood-thirsty savage, bent on destruction and rampant warmaking across the face of Eurasia is inappropriate. Nor should he be dismissed as another example of nomadic expansionism, bent on plundering without a strategic objective, which are reasons often given for the explosions of Attila the Hun in the fourth century and Tamerlane in the fifteenth century, into Europe.

His superb warrior skills, combined with a vision of world rule and natural leadership ability enabled him to deduce his basic problem. Organization of the tribes and clans of the steppe into a cohesive fighting force, guided by his unfailing sense of maintenance of the objective, aided by brilliant and loyal generals believing in the strategic cause of

their leader, was the central task. His flexibility, readiness to adapt to change, and willingness to hear the bad news as well as the good, only enhanced his efforts to achieve a continuity of effort for world domination.

## CHAPTER THREE

### ORGANIZATION, TRAINING, AND CONTROL

#### PART ONE

##### ORGANIZATION FOR COMBAT

Genghis Khan gained more than just his vision of world domination from the Chinese. The military organization, training, command and control, communications and logistics used in the Mongol conquests were, in large part, adaptations of previously developed Chinese ideas which the Mongols modified to fit their strategic and tactical objectives.

In the Fourth century B. C. the Chinese, reacting to Hunnish incursions from the north, developed a weapon to counter the speed of the barbarian horsemen galloping around and through the ranks of Chinese infantry. That weapon, the crossbow, became the foot-soldier's advantage over the horsemen, enabling him to reach out to the Hun cavalryman and kill him at distances beyond the effective range of the barbarian return fire with a standard recurved bow. The crossbow carried by a Chinese infantryman fired a missile to a range of fifteen hundred feet.<sup>1</sup> The Chinese were not long in mounting their foot soldiers as cavalrymen and outfitting them with a lighter model crossbow, although still capable of firing to a range of six hundred feet.

Chinese attempts to create an advantage against the barbarian by combining the crossbow with their cavalry proved futile. The Chinese cavalry, even with a longer range weapon, were never equal to the cavalry of the nomad and could not therefore stop the barbarian incursions. The Great Wall of China was another attempt to seal off the Northern frontier. It too failed. Therefore, the Han dynasty decided to change the organization, disposition, and composition of their frontier armies in order to control the steppe invader. Rather than subject the Chinese populace to lengthy and expensive expeditions against the barbarians beyond the frontier, the Han dynasty resorted to establishing military-agricultural colonies, occupied by a divisional Chinese militia and supplemented these militia with barbarian auxiliaries. These auxiliaries were used both to keep pesky nomad tribes in check beyond the frontier but also, and here is the significance, to crush internal Chinese revolts.<sup>2</sup> Once the auxiliaries had operated within China under control of Chinese leaders, there began a slow but traceable transfer of technology from the Chinese to the barbarian west.

The transfer of technology took all forms, ranging from iron and steel-making skills which increased dramatically the availability and durability of arrowheads among the steppe tribes, to the very important social and political organization skills which were to "prove vital to the creation of the strength of China's conquerors in the twelfth and thirteenth centuries."<sup>3</sup> Along with these managerial skills the nomads also began to learn the value of mounted drill and trained maneuver. Associ-

ation of the barbarian auxiliaries with the Chinese divisional militia, operating from their military colonies, allowed the transfer of a particularly significant military skill employed by the Chinese.

During the winter training sessions of the [Chinese] divisional militia, great stress was placed on conditioning the men to respond precisely to horn, drum, and flag signals; and they were reputedly able to advance and retire in battle under perfect control. The first century of T'ang rule [627-649] saw, in consequence, some extraordinary successes against superior numbers. The divisional militia cavalry are said sometimes to have scattered enemy mounted forces up to ten times their own number.<sup>4</sup>

By necessity, both the organization and control techniques used in the divisional militia were observed and learned by the barbarian auxiliaries employed by the Chinese. The techniques of the frontier were passed from the auxiliaries to the nomads beyond the frontier. Henry Martin maintains that the organization and control of the Mongol armies tended to resemble the system of the Khitan, who had in turn learned them from the T'ang.<sup>5</sup>

It took the Mongols, under the brilliant leadership of Genghis Khan and his equally talented generals, to perfect the system and apply it in the strategic arena. Trevor DuPuy errs in saying that it was Genghis's genius for organization which created an entirely new military system and method of war.<sup>6</sup> Genghis Khan had a genius for organization but he definitely did not create an entirely new military organization and system. The system he used was one that evolved over a thousand years of warfare with all the action and reaction which technology adds to combat. For example, a technological advance which adds weight to the offensive spirit (the stirrup) causes a reaction in the defensive spirit of the infantry. The

infantry then searches for a technological advantage to compete with the newly stabilized and more accurate horse archer. His answer was the crossbow. The use of armor by steppe warrior was another such reaction to offset the advantage the crossbow gave the Chinese infantryman. Since the barbarian could not now close with the infantry with impunity, he armored his horse and body with leather and iron to reduce the effectiveness, and thus the advantage of long range infantry crossbow fire.

Weapons technology, however, was not Genghis's first priority in the building of his armies. His first task was to organize the tribes and clans of central Asia into a cohesive fighting force, able to respond as well if not better than the T'ang divisional cavalry had six hundred years prior. The basic fighting unit, in 1200 (before Genghis's reorganization) was a tumen. The separate tribes and clans of the steppe, using all the tribe's able-bodied warriors, would form a tumen. The size of any one tumen varied. Normally, a tumen was no larger than one thousand men in a rich tribe and numbered even less in poorer tribes.

In these tribal tumens, there was no organization of sub-elements as such. When required to fight, the tumen rode as a single mass with very little thought to sub-unit independent action. Generally the tribe would ride to the foe and the two enemies would simply crash into one another and, in the ensuing melee, brute strength and superior numbers usually determined the winner. Unit cohesion, such as it existed, was based on family and tribal affiliation. Genghis realized his organization of the

tribes had to be based on the family, in order to capitalize on the natural bonds of mutual trust and cooperation which already existed at that level. His smallest fighting unit, the one from which all other units would grow, was the troop of ten which consisted of nine fighters and a leader. The troop was composed of two or three families depending on the number of able-bodied sons living with the father in the yurt (or family tent). This elemental organization is important since the steppe warrior would fight and die without question for his immediate family, but Genghis's task was to create a spirit of mutual trust and cooperation which was based not only on the family and immediate tribe but a spirit and willingness to fight for him and the Mongol strategic cause. How he accomplished this is explained later. His initial problem was simple organization. In order to achieve a semblance of standardization among the very different sizes and compositions of tribal regiments, Genghis used a decimal system to organize the steppe warrior. From what would generally equate to a present-day U. S. Army equivalent of a division down to the squad, he used the decimal system with each unit composed of ten sub-units. Henry Martin gives the most definitive explanation of the Army, which is shown at Figure One.

The only deviation from this decimal system of organization occurs in the work of W. H. Cureton. He describes the same ten unit arrangement up to a regiment, then shows five regiments in a brigade with only two brigades making a division.<sup>7</sup> Unfortunately, there is no way to trace Cureton's source to explain the discrepancy.

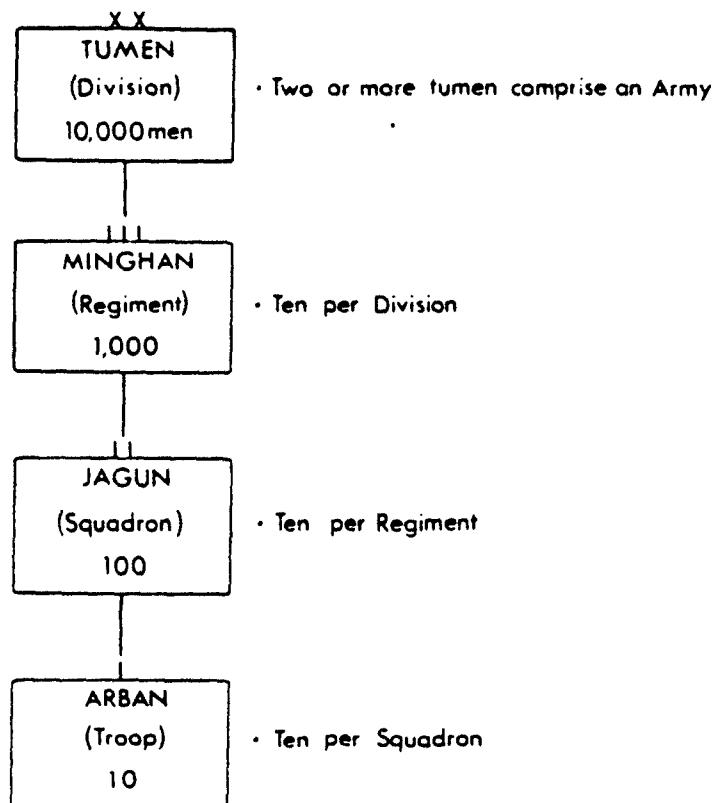


FIGURE ONE  
INITIAL UNIT ORGANIZATION

If there is a minor disagreement on the organization of the Mongols below division level, there is none on the echelons above division. Scholars agree that Genghis divided his forces into three armies, each composed of at least two or more tumen. In order to maintain control over the expanding empire, he expanded it into three army territories. The Army of the Left Wing or East was responsible for the area east of Genghis's headquarters, the Army of the Right Wing or West, was charged with the area to the west of him, and the Army of the Center of Imperial Ordus (tent city), contained Genghis's headquarters.<sup>8</sup> Estimates vary

on the size of his entire force. The most realistic estimate cites a force no larger than 120,000. Some scholars allow the size to grow to 200,000 but generally not higher.

In order to control this large organization, Genghis required an equally efficient leadership. While the ability to control efficiently ten separate sub-units of equal size may seem a demanding task compared to the current U. S. Army doctrine which says a commander cannot efficiently control more than five sub-units of equal size, the Mongols apparently did it with ease.\* That they could do so is a testament to the leadership of Genghis and his army generals, his ability to find talented leaders and place them in positions of responsibility, and the Mongol training program.

Genghis's leadership system relied on the members of his Guard, the Keshik, warriors who had demonstrated an ability to lead by example, and from among whom unit leaders were chosen. The Guard was not composed of a strictly hereditary class of warrior, similar to the Samurai of Japan, but of any Mongol or ally fighting man who has shown promise in combat. He included in the Guard not only nobles and princes but common soldiers from his army and all defeated armies.

\*A detailed discussion of individual and unit control techniques is in Part Three.

Initially, the Guard was no larger than a few hundred but rapidly grew to three thousand and when Genghis died in 1227, the Guard was the size of a regular tumen of ten thousand. The Guard was split between day and night guards, with four hundred archers who supported the personal bodyguard of about one thousand cavalrymen who accompanied the Khan into battle. To be selected and serve in the Guard was the highest honor a Mongol warrior could receive. It was therefore a merit system, not one based solely on heredity, even though members of the steppe aristocracy did habitually enjoy positions of responsibility in the upper echelons of the command. This system of reward for excellence in the performance of duty and demonstrated potential was assuredly a motivating factor for both the "nobility" of the tribes but more importantly for the common soldier as well. It was not unusual for a very junior subordinate warrior to find himself appointed as governor of a province overnight. With this political governorship also came the responsibility to command the warriors who lived in the province when the Khan mobilized his forces for combat. A province worth of soldiers could equal a division in size.

With an understanding of how Genghis kept his armies' command positions filled with talented leadership, and created an institutional motivation for his warriors, an investigation of how his army staff was organized and their responsibilities is appropriate. Very little is written about the army staff of the Mongols but Genghis also appointed members of the Guard to be his army staff officers. In order to understand the duties and responsibilities of his staff, the explanation that follows will use

the current U. S. Army General Staff as a rough analogy with the sometimes cryptic functions of the Mongol staff related to those positions. Figure Two shows the U. S. Army General Staff model used in this analysis.

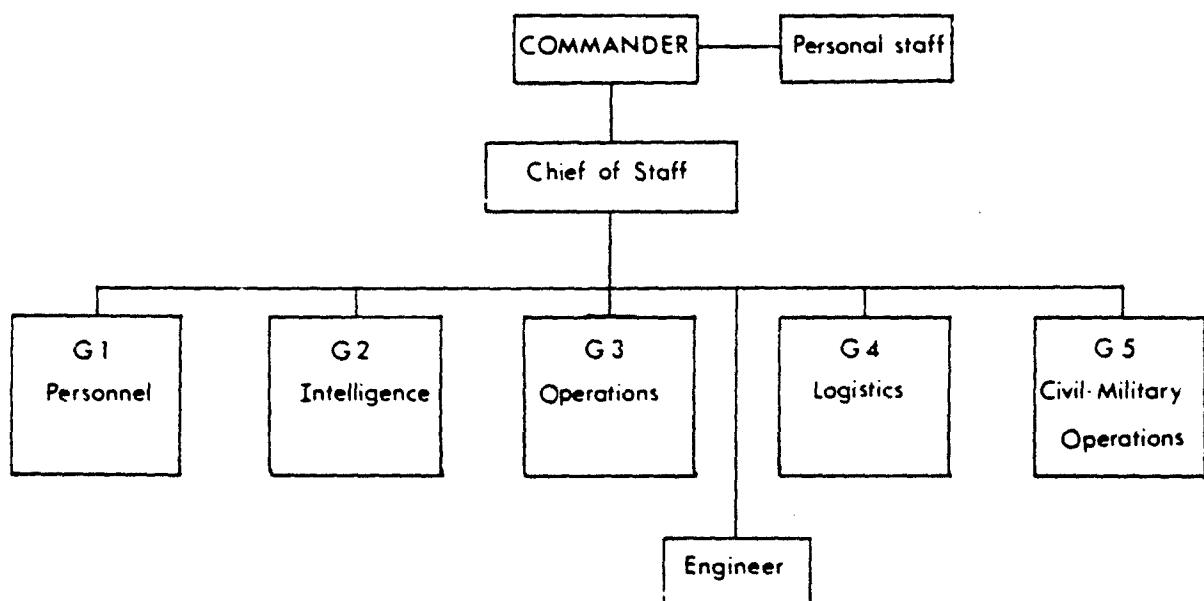


FIGURE TWO  
GENERAL STAFF MODEL

The purpose of the Mongol staff was the same as a General Staff; to p.11 for and carry out the orders of the commander. Peter Brent says that the Khan's "orders . . . were passed through a permanent committee of trusted leaders, what may be termed a general staff, administered by lesser officers."<sup>9</sup> Duties of the staff centered around the requirements of mobile army. Initially Genghis identified his staff positions by their function, rather than naming them with a single Mongolian word. Later, some officers were retitled with single names. Barthold presents a detailed picture of

the general staff organization but only hints to their total function. A review of Figure Three shows the organization and general description of duties.<sup>10</sup>

Four men to carry the bows and arrows'	Three men to be 'overseer of food and drink'	An 'overseer of sheep pasturage'	An 'overseer of the preparation of carts'
An 'overseer of the domestic staff'	Four men to 'carry the swords in one place'	Two 'overseers of training horses'	Three men as 'overseers of horse pasturage'
Four men to be 'far and near arrows'		Two men as 'guardians of the assembly'	

FIGURE THREE  
MONGOL STAFF OFFICER NAMES

Barthold does not show the staff organized in a similar manner to Figure Two and probably no such "wiring diagram" approach would be realistic. The analysis of the staff functions which follows, however, will attempt to demonstrate the interaction and cooperation of the Mongol staff which must have existed in order to support a highly mobile army.

There does not appear to be a staff officer comparable to the G1 (Personnel). Genghis apparently left personnel accountability to the army and lower commanders. As long as the tumens arrived for the campaign with the correct number of warriors he was apparently not interested in total strength figures.

The G2 (Intelligence) function was performed by the four men assigned to be "far and near arrows." They controlled the scouts, messengers and couriers, and insured a continuous flow of information to and from the Khan. This staff received intelligence from spies and informants prior to a campaign, which was used in developing the overall strategy of the operation. During movement and combat these "arrow messengers" were the link between columns, providing information on enemy activities, positions of the columns along the route of march, and relayed orders to the field from the Khan. Included in this staff were the equivalent of signal officers, standardizing and executing both visual and audible signals for the Army, based on the Khan's orders.

An operations staff is not apparent. It is difficult to interpret, from the Mongol titles assigned to the staff, that any one of them had the responsibility for operations planning as currently executed by a G3 (Operations). Strategic planning and direction of tactical operations must have been controlled by Genghis himself. Scholars agree that the overall objectives and strategy of a campaign were decided in a Kuriltai or great council, prior to a war. During these councils, Genghis would gather his army commanders and his army staff and together the broad scope of the operation would be coordinated. Final decisions and orders were, of course, reserved for the Khan but coordinated planning most certainly occurred. Once the operation was begun, however, there is no evidence to show that a staff operations officer, responsible for keeping track of the flow of units in a battle or in the campaign, existed. If such a staff existed, it must have been a small circle of officers, riding in the immediate vicinity of the Khan who offered advice and proposals on actions for the armies, based on intelligence and reports from the committed units.

Logistics functions are the most obvious and specialized duties of the staff. The four men "to carry the bows and arrows" and the four men to "carry the swords in one place" were supervisors of the armorers, probably responsible for not only insuring weapons were correctly loaded for transportation, but also for organizing and inspecting weapons-makers to insure a ready supply of replacement weapons. Mess operations were the duty of the three men to be "overseers of food and drink." From preparations of

iron rations to be carried by individual warriors, this staff also insured that when the campaign was launched, they maintained control over locally seized foodstuffs to support the army. This staff probably also was responsible for organizing feasts and banquets to celebrate victories or receive dignitaries. The "overseers of horse and sheep pasturage" had responsibility not only to manage the pasturage in and around the areas of Mongol base camps but also to insure adequate pasturage was set aside along the routes of march to and from an objective area of the campaign. Coordination between these staff officers and the "overseer of the preparation of carts" was vital. While the title may lead to a perception that the staff officer simply prepared carts for caravans, similar to a Division Transportation Officer, his duties were much greater. This staff controlled the movements of the armies during campaign, organized troop dispositions in the march, and designated enroute camp locations. Therefore, the "pasturage" staff officers had to advise the "preparation of carts" staff officer on pasturage locations suitable for the size of the deploying armies, distance the columns would travel, and expected duration of the campaign. In order to adjust rapidly to campaign requirements, scouts from the "far and near arrows" staff were attached to the "preparation of carts" staff for relay of logistics orders across the army(ies).

If the intent of the logistics staff is clear, the duties of the "overseers of training horses" is not. Probably this section was responsible for maintenance of the huge remount depots established to support

a campaign. A principle task must have been to capture wild steppe horses to refill the depleted herds after an engagement. Once captured, horse trainers would break the new horses and prepare them for issue to warriors whose mounts had died or had been killed. Replenishment of horses was a critical necessity for the Mongols since their survival as a people and as a mobile army depended on horse transport. A routine sub-task for the scouts operating under the supervision of the G2 ("far and near arrows") and the G4 ("overseer of the preparation of carts") must have been to automatically note the position, number, and direction of movement of wild horses on the steppe to insure timely replenishment of herds. Clearly then, constant coordination and cooperation of the "general staff" was vital to the success of the Mongol operations, operating as they did on lines of communication stretching for thousands of miles across Eurasia.

Later, in the evolution of the Mongol army, a special staff officer position not indicated by Barthold, was created. This was the office of the Chief Engineer. He was responsible to the Khan for all matters relating to siege warfare and the engineer tasks it required. From building war engines to digging tunnels, ladders, scaling towers, and preparation of stone and incendiary ammunition, this staff officer was also responsible for coordinating the activities of the Chinese, Persian, and Turkoman technicians who constantly improved the Mongol siege tactics and weapons. While the organization of the staff for war was mainly logistical in nature, the staff which supported Genghis's headquarters was similar to the U. S. Army Headquarters Commandant. Appointed as the "overseer of the

"domestic staff," this commandant undoubtedly worked in close cooperation with the "guardians of the assembly" to insure continuity of effort in providing for the daily needs and immediate security for the operational element of the staff, including Genghis Khan. Little is written of the responsibilities of the Masters-at-Arms comprising the "guardians of the assembly." They must have been charged with local security of the tents in which Genghis resided and planned campaigns with his army and division commanders. The "domestic staff" provided the tent erectors and servants to attend to the nobles and princes of the Mongol army.

To supervise the overall conduct of the general and domestic staff, there must have been our equivalent of a Chief of Staff. Except for references by some scholars to Subedei being Genghis's Chief of Staff, there is nothing to indicate such a position existed separately from the ten other staff positions. It is doubtful that Subedei acted as a Chief of Staff as we understand the function. He probably acted as a very trusted advisor to Genghis on operational strategy and tactics but did not supervise the G2 and G4 directly. The G4 ("overseer of the preparation of carts") must have been the equivalent of the Chief of Staff. Reviewing his duties and responsibilities, he must have orchestrated a majority of the staff's activities to support the operational plan. An indicator of the importance of this position is that Genghis appointed his brother, Bilgutay, to the post. Genghis must have wanted a man in this position who was intimately familiar with the predilections of the Khan and could anticipate requirements for all the other staff.

From this "general staff" of the Army, lines of staff communication must have run directly to the subordinate armies and divisional staff organizations of the tumens. There is little data to confirm this hypothesis but army and divisional staffs must have existed. Harold Lamb provides a clue to confirm this. Losing equipment prior to battle was a serious offense in the Mongol Armies. During combat, however, exception to this rule was allowed. In the interest of thrift and equipment accountability, Lamb says "There was even a lost-and-found department in each division to keep track of missing equipment."<sup>11</sup> Bows, swords, and paraphernalia of war, policed from the battlefield and dead comrades, must have been turned into the divisional staff equivalents of the army's staff assigned "to carry the bows and arrows" and "carry the swords in one place." Additionally, spare horses, whose owner was now dead, must have been turned over to the divisional "overseer of training horses" to replenish the divisional remount depot or be passed up to the army depot if required there.

With this analysis of how the responsibilities and staff cooperation must have existed, down to division level, Figure Four is an attempt (which, however, must be taken as an approximate) to organize the staff using the "wiring diagram" approach. The Figure serves to demonstrate pictorially the Chain of Command and possible staff organization.

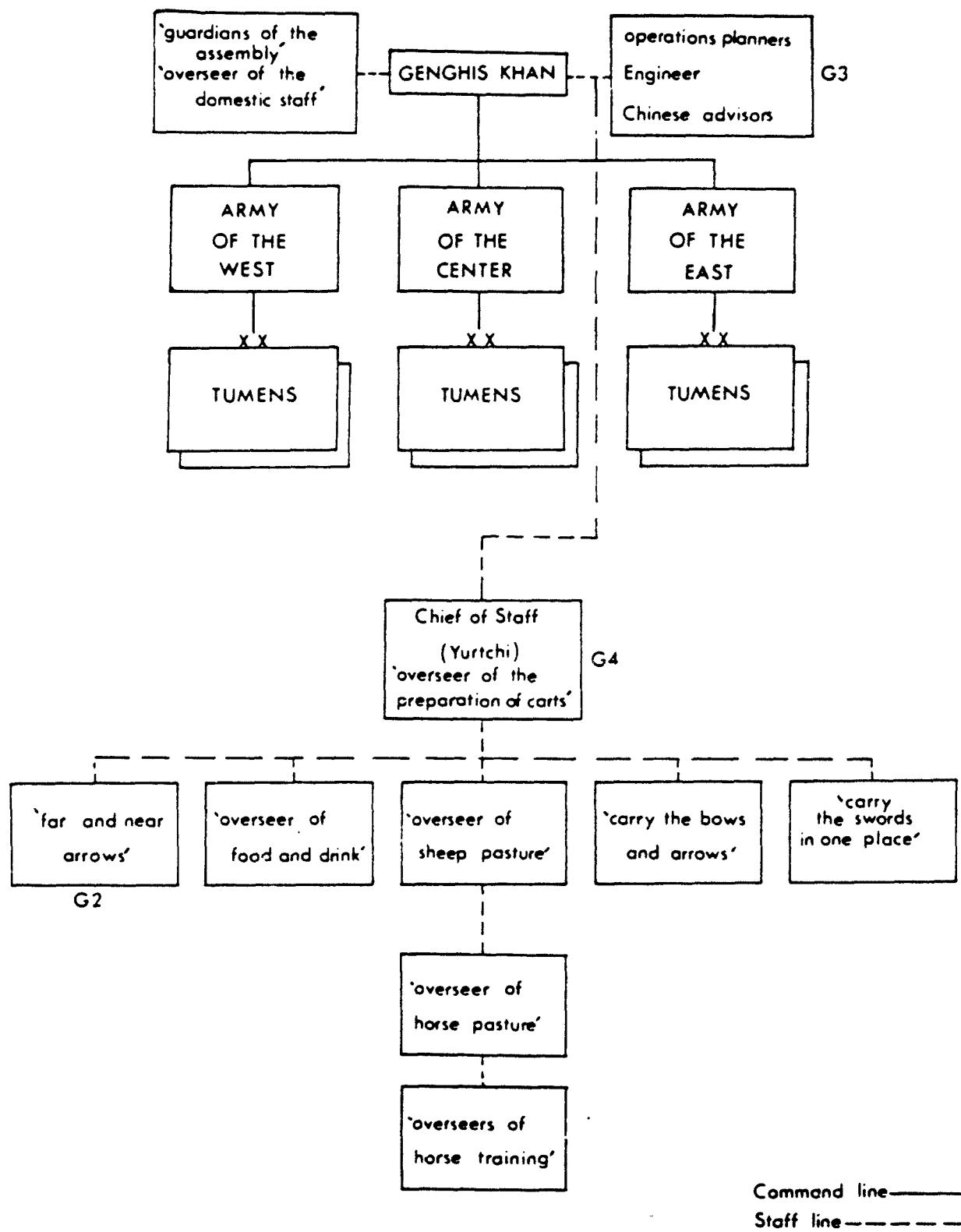


FIGURE FOUR  
MONGOL STAFF ORGANIZATION

With an efficiently organized staff system, a readily available pool of talented warriors to assume leadership positions, and a simple, yet effective organization for combat, Genghis had the basis of an Army which then had to be trained to rapidly respond to orders in order to capitalize on the tremendous mobility these natural horsemen of steppe offered him. Chapter four will serve to demonstrate the advantage mobility confers on its possessor.

## PART TWO

### TRAINING FOR WAR

You, my faithful commanders, each like the moon at the head of the Army, you jewels of my crown. You, the center of the earth, you as unyielding as rock. And you, my army which surrounds me like a wall and is ranged in rows like a field of reeds. Hearken all of you to my words. Live in harmony together like the fingers of one hand, and, in the hour of the onslaught, be like a falcon that swoops upon its prey. At the hour of sport and pastime you should be like swarming flies, and in the hour of battle you should attack the enemy as an eagle attacks its victim.<sup>12</sup>

The significance of this quotation by Genghis, in issuing guidance to his son Juji and Subedei prior to their campaign to subdue the steppe tribes to the northwest of the Mongols, is not in the simile used to describe his soldiers, but in the simile he used to describe their conduct of battle. In this campaign, which was the first to be conducted without Genghis Khan leading the army, he uses the fighting technique of the falcon; silent, swift, killing with devastating shock effect, to describe how he desires his independent army to conduct operations. Here is the essence of the brilliance of Genghis Khan as a trainer. In the short period of only four or five years after he was appointed the supreme Khan of the Mongol steppe tribes, he had trained both his officers and his warriors to become a cohesive, flexible fighting force capable of independent operations across Asia, without his personal presence required to insure success. While it may seem that four or five years was, in fact, an excessive amount

of time to organize, train, and equip an army for independent operations, it is really quite remarkable, remembering that Genghis took the raw power of the individual steppe warrior, developed a well-trained force, and neutralized the affects of centuries of intra-tribal warfare, characterized by unsophisticated brawling. In order to accomplish this feat, Genghis realized he had to train the leaders first, then through them, train the soldiers to fight as units, not as individuals.

In Genghis's struggles for power as a young tribal chief, his initial victories over neighboring tribes were marked solely by his tactical intuition. Issuing orders directly to his units, employing maneuver to the flanks as well as direct penetration of the enemy front, he trained his leaders by example. They saw the techniques which brought success and suffered with him when he experimented with the ones that brought defeat. Knowing no other system except the maneuvers learned from the T'ang and other forces they fought, Genghis initially trained his leaders the hard way--through experience. At some time, prior to 1194, during his rise to power, as he added warriors to his ranks, he made a significant change in his leadership training technique. He must have realized that learning by experience in combat was not the most effective way to train leaders. He instead decided to organize a training system called the sham-fight. This was a training exercise which would be referred to as training in warfare rather than training during warfare.

He divided his 13,000 [total soldiers in his army at this time] into thirteen guran or corporations--each guran attacking, re-

treating, and wheeling as a unit. They had to try and circumvent one another, to take the mimic adversary in the flank or pierce his center. This was a game which inflamed their fighting blood, and Temuchin had often to intervene lest the sham-fight should become in grim earnest, for each guran, each regiment, consisted of men who were closely akin so that brothers, cousins, and friends fought side by side<sup>13</sup> and a defeat--even in a sham-fight--was felt to be a disgrace.

Here is the root of not only the Mongol organization of the cavalry into thousand man regiments, but also of the Khan's tremendous ability to train leaders. Before Genghis decided to engage his forces in their first sham-fight exercise he assuredly must have had training session with his leaders. In this session the leaders must have discussed in detail the objective of the training, the formations and maneuvers which would be allowed, the terrain boundaries inside of which the fight would remain, and the rules of engagement for the warriors. Once the general rules of the game were established and the Khan had counselled the leaders on the proper techniques of control over a thousand man unit, the guran chiefs then applied themselves to trying to achieve the penetration of the center or the turning of the flank. During these sham-fights Genghis's tremendous leadership must have been severely tested to keep the highly motivated and competitive subchiefs from thrashing each other beyond the limits of training value. The frequency of training in the sham-fight is not known. But after the Khan's strength had risen from the thirteen thousand he had when he initiated the training exercise, to a strength exceeding two tumen (or twenty thousand), the responsibility to conduct sham-fight training must have been passed to the tumen commanders. The next most logical step was for the Khan to organize an Army sham-fight between divisions (tumens).

It is doubtful if the Khan ever took such a step. The space requirements alone for such an exercise would have been tremendous. For a single tumen effectively to employ its scouts, ten thousand square miles of terrain would have been required. Double that amount to include the space for the opposing tumen. Considering the space required for the rest of the divisions to operate effectively (by Mongol standards), such an exercise, if contemplated, was seen as unmanageable. Additionally, the Khan must have realized that even his personal leadership would be insufficient to control his aggressive troops and commanders in an opposing force sham-fight of this magnitude. The Khan decided then to use animals as the opposing force, rather than his own warriors, in his training exercises for the army echelon leadership.

The Army level training exercise, run by the Khan, was known as great hunt or also called the great chase. The best description of the event is given by George Vernadsky.

The beginning of the winter was designated as the season of the great chase. Orders were sent in advance to the troops attached to the great khan's headquarters and to the ordu, or camps, of princes or the blood. Each army unit had to supply a quota of men for the expedition. The hunters were deployed like an army, with a center and right and left wings, each commanded by a specially appointed general. Then the imperial train--the great khan himself with khatuns, concubines, and food supplies--set forth for the main theater of the chase. Around the huge area comprising thousands of square miles designated for the hunt a wide ring of the battue was formed, which gradually converged during a period of from one to three months, driving the game to the center where the great khan was waiting. Special messengers reported to the khan the progress of the operation and the location and quantity of the game. If the ring was not properly

guarded and any game escaped, the commanding officers--chiliarchs, centurions, and decurions--were held personally responsible and subjected to severe punishment. Finally, the ring was locked and the center enclosed with lines of ropes around a ten-mile circumference. Then the khan entered the inner circle, which by that time teemed with bewildered, roaring animals of every kind, and opened the shooting; he was followed by the princes of the blood, army commanders, and then privates, each rank shooting in turn. The slaughter continued for several days. Finally a group of old men approached the khan and humbly implored him to grant a term of life to the remaining game. This done, the surviving animals were let out of the ring in the direction of the nearest water and grass; the slain were gathered and counted. Each hunter received his share according to custom.<sup>14</sup>

The true significance of the great hunt as a training exercise for leaders rather than units is evident by the chain of command and their responsibilities. Note that the hunting army was organized in three wings, composed of warriors representing several different armies operating under the command of a specially appointed general. This general was certainly not normally in command of the troops he led during the hunt. He was appointed to command a wing in order to evaluate his proficiency at controlling troops and also his potential for higher level command. Competition to be chosen a leader of a wing must have been intense, even at the risk of the severe punishment for failing to keep the beasts in the circle. Vernadsky's use of the word centurion (leader of a hundred) and decurion (leader of ten) corresponds to a leader of a Mongol squadron and troop respectively. Therefore, not only was the leader of the wing subject to careful scrutiny, his subchiefs, whom he probably had never commanded before, were also. Since the hunt lasted for three months, this leadership training must have produced considerable benefits in the lessons of unity of command, adherence to orders, and value of leader self-discipline.

Another leadership training innovation for the Mongols, again a result of Genghis's keen perception, was the formation of the Mongol War Academy. Attendance at this academy, in later years, was required for any Mongol who had dreams of commanding at regimental level. Initially, however, the War Academy was created to fill a glaring gap in Mongol officer education.

After Genghis had secured control of the steppes of central Asia, he decided to repay the Chinese to the south for the years of subservience the Mongols had suffered under their domain. His punitive expedition resulted in a stalemate because this campaign was the first time Genghis had encountered fortified cities. Unable to force the city by direct assault with foot troops, he realized the Mongols would have to learn siege warfare in order to defeat the Chinese. He returned from China and established the War Academy to train his officers in siege warfare techniques. Each army was required to send officers to learn the new tactics. These leaders returned to their armies and built their own siege weapons and trained their own officers, who eventually "formed a corps of artillerists and engineers about thirty thousand strong."<sup>15</sup> From its beginning as a siege school, the War Academy added instruction on cavalry fighting and staff work which served to enhance the education of the Mongol leadership.

While training at the Academy was strictly for officers, the training value of the sham-fight and great hunt was for the warriors also. Genghis said that "hunting was also considered excellent training for adult warriors". . . [and] that the objective is not so much the chase itself as the

training of warriors who should acquire strength and become familiar with drawing the bow and other exercise."<sup>16</sup> Although this statement implies that training in archery was intensive, it really was only refresher training. Mongol youths learned at an early age to ride and shoot the bow, there was not a requirement to have a Mongol "basic training" for the steppe warrior. When the nomad youth reached warrior age, he had already mastered the basic skills required of a cavalry army. What was required and satisfied in the great hunt and training conducted below division level, was to train the individual archer to fire in concert with his comrades to achieve the devastating shock and killing effect of massed archers firing an "arrow storm." Training in hand-to-hand fighting with edged weapons and lances was probably a routine event also.

Training in individual fighting skills then, was a dedicated task, integrated into the unit training of the sham-fight and the great hunt. The "other exercise" Genghis refers to must have been training in hand held weapons; the lance, axe, sword, and lasso. The Mongol warrior was extremely skillful in the use of the lasso, not only to capture the wild horse of the steppe but also in combat.

A review of the steppe warrior's weapons is appropriate. Scholars generally agree on Mongol weaponry. There is disagreement on how many bows the warrior carried, however. Vernadsky and Cureton say that two or three bows were used, while Walker and Chambers say only one was used. Since it

is agreed that the Mongol cavalryman did fight on foot at times, using a bow, there must have been two bows used; one short one for shooting from the saddle and one longer one to fire while dismounted, with an effective range of over 350 yards. The steppe warrior must have had extremely powerful arms and shoulders as the draw of the Mongol bow "required a pull of at least 166 pounds."<sup>17</sup> In comparison, the English longbow required a draw of about 80 pounds (average). The effective ranges for the two were approximately 350 yards and 200 yards respectively. A comparison between the two bows, highlighting essential differences, is shown at Figure Five.

To capitalize on the versatility the short, extremely powerful bow gave the steppe warrior, he carried three quivers with arrows for different uses. One quiver carried the standard Mongol arrow used for general purpose fighting against unarmed foes. Another quiver carried armor-piercing arrows, their arrowheads tempered with salt water, capable of penetrating light metal armor or thick leather. Special purpose arrows were carried in the third quiver, containing arrows with special heads for starting fires, signaling both sound (whistling) and sight (incendiary) and carrying messages. With these weapons, combined with the stability provided by the stirrup, the Mongol was amazingly accurate while riding in combat. Timing his shots between the strike of his horse's hooves, the steppe warrior was devastating in the placement of well-aimed arrows into the ranks of his enemy. Although not as accurate, the Mongol could also place area fire into his opponent by firing arrows backwards as he sped

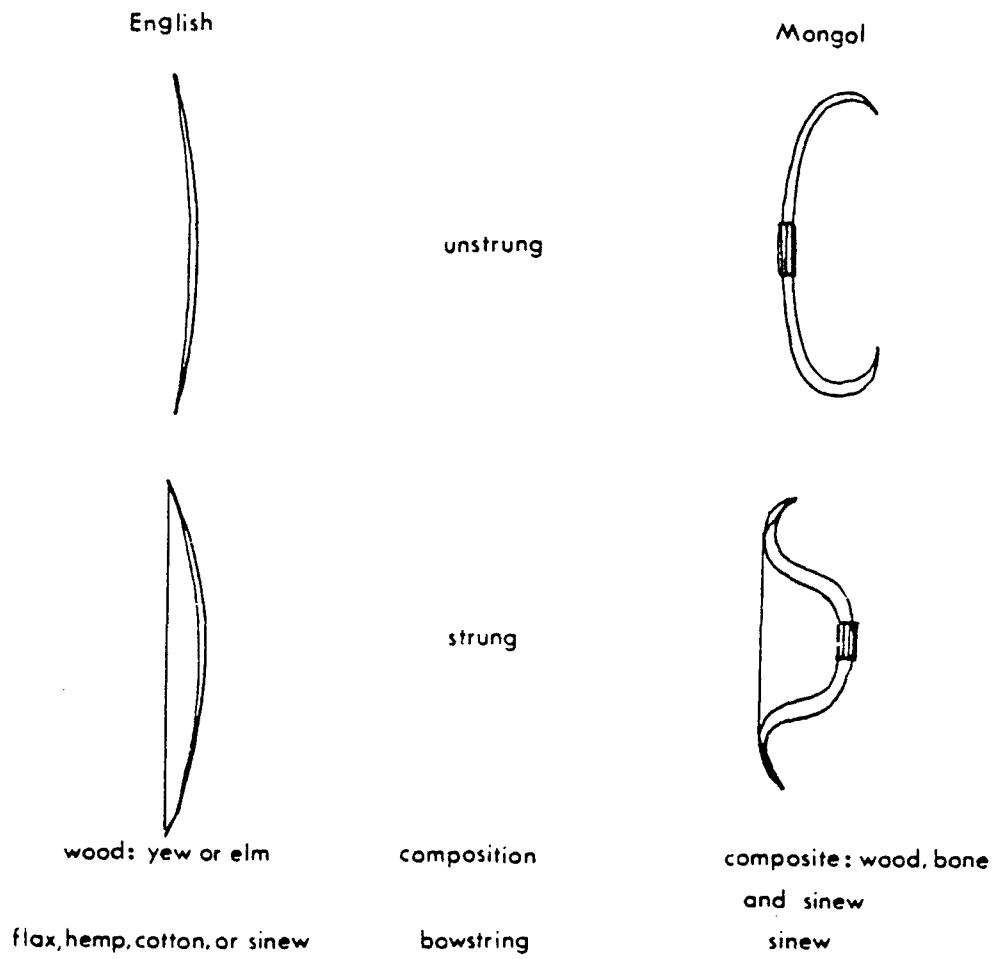


FIGURE FIVE

THE MONGOL BOW

away from the foe, again using the stirrup to stabilize his body. Trained to use the bow from childhood and competing in games throughout his warrior life, the steppe warrior retained his skill as a Bowman which, when combined with his speed and use of maneuver warfare, made him the most feared

soldier of the Middle Ages. Granted his ruthlessness in treatment of defeated enemies, both soldier and civilian, was in large part responsible for the terror he fomented, his skill in combat was no small part of his image.

The Mongol was also respected for his use of artillery. A detailed discussion of the siege weapons used by the Mongols is not included here, since the emphasis is on training of the soldier and little exists which provides details of artillery training. W. H. Cureton, however, provides a synopsis of Mongol siege weapons.

The artillery consisted chiefly of ballistis, corresponding to light howitzers, and catapults, flat trajectory weapons. These were taken to pieces and transported as pack artillery. They could fire rapidly and accurately, could go anywhere, and were adequate for open fighting. The huge ballistas and catapults necessary for siege work were transported in high-wheeled carts, or constructed on the ground when requirements of mobility did not permit the carts to accompany the fast moving columns. The heavy artillery fired huge stones often exceeding a ton in weight. The light artillery was considered effective up to twenty five hundred yards.<sup>18</sup>

An excellent example of the Mongol as an innovative thinker in artillery warfare occurred during the siege of Gurganj, in the Persian campaign. Having no stones readily available to hurl against the walls of the city, the Mongols cut down mulberry trees, sliced of thick circular pieces, and soaked them in water until waterlogged, then used them as "bombs" to beat down the walls of Gurganj.<sup>19</sup> Again, with the exception of the formation of the War Academy to train leaders in the art of siege warfare,

there is nothing in the research of Mongol warfare to provide any details of artillery training.

If details of artillery training are few, the requirements to train the steppe warriors' "fighting vehicle" were few also. The Mongol horse was an incredibly hardy animal. Stunted in growth by the harsh steppe environment, the steppe pony was a natural forager requiring little attention or extra food. Once tamed, the horse assimilated quickly into the Mongol herd system and very rarely strayed. So naturally did the horse join the herd that instead of requiring large numbers of warriors to keep the horses under control during movement, a single herdsman, riding a mare, could lead large herds of horses with ease. A natural follower then, the horse required minimal control from his rider to stay with the combat formation. Training in the sham-fight and other formation drills must have been simplified for the warrior since his mount responded quickly to rapid changes in direction of the unit. Additionally, the discipline of his horse enabled the nomad to concentrate on his bow shooting skills, using both hands fully or when engaged in close combat, the sword and wicker shield. The endurance of the nomad horse was in large part to have a direct influence on the steppe warrior's ability to both maneuver and operate for extended distances. Owen Lattimore remarks that "even today (1963) a Mongolian horse that can be lassoed and saddled . . . can be ridden non-stop for more than 100 miles."<sup>20</sup> This performance is typical, not exceptional, but cannot be duplicated for several days after stopping as the pony usually requires two or three days of foraging to regain strength.

Combining the toughness of the steppe pony with the natural fighting skills of his warriors, Mongol leadership could easily reduce the primary training task to one of initial drilling in unit formations and maneuver and continual practice on the same thereafter.<sup>21</sup> Genghis was so dedicated to insuring his soldiers were well trained that he spent the entire summer of 1219 on the Irtysh river (northeast of Lake Balkash) conducting intensive training for his units, prior to launching his campaign against the Shah Muhammed in Persia.

Communications and control techniques used in these intensive training periods were very different from those used in the early years of Mongol ascendancy. When Genghis's following was small and primarily Mongol in makeup, he could use the spoken word to transmit orders directing a change in formation or movement. As the army grew in both size and cultural difference, he realized he must adopt the T'ang system of control and communications. Audible and visual signals replaced the spoken word as the primary means of communication and control and consequently increased the battlefield commander's span of control beyond the range of his voice. Additionally Genghis realized he had to initiate a system of individual control over the steppe warrior.

## PART THREE

### CONTROL OF THE BATTLE

He who changes his assigned place of duty without permission shall be punished by death.

The soldier who neglects his duty shall be punished by death. Only those chiefs of ten thousand, thousands, hundreds, and tens who come to listen to our ideas at the beginning of every year can command soldiers. Those who, instead of coming to hear our instructions, remain in their camps, shall suffer the fate of a stone dropped into deep water or an arrow among the reeds--they will disappear. Such men cannot command soldiers.<sup>22</sup>

Genghis and his generals had to consider how to control the battle as it occurred on two levels; control of units through signals and control of individual warriors. In some ways control of the individual steppe warrior was initially more difficult to attain than was control over units. The quotation above is but one part of Genghis's solution to the problem of establishing control of the steppe warrior, by promulgating a sort of Code of Conduct, called the Yassa. Through this code, Genghis stabilized the uncertain behavior of the nomad and brought it under control not only in combat but also in peacetime. A complete discussion of the entire Yassa is at Appendix One.

In order to understand why the Yassa was required, it must be remembered that prior to Genghis's ascendancy, the Mongol warrior was not a "national" warrior. He was self-centered, interested only in the survival of himself and his immediate family. Genghis had to overcome this mindset

and create a philosophy of cooperation, mutual trust, and allegiance to the warrior's combat unit. As he had done so often before, Genghis set the example for this conduct as a leader, demonstrating on the field of battle the loyalty to the unit which he desired to replace the loyalty to self and immediate family. By his own self-control he showed his leaders and soldiers the way.

During his campaign against the Keraits tribe, Genghis ordered a small force to ride around behind the Keraits, carrying his personal standard of nine yak tails. This small force, suddenly appearing on a hill behind the Keraits, forced the Keraits to fight on two fronts. Their leader, Togruk or Wang Khan, thought he could not defeat both forces, having been deceived by the ferocity of the small group of Mongols in his rear. The Wang Khan broke off the battle and retired for the evening. Genghis, after being advised by his personal staff to retreat also, refused to do so until the small deception force had linked back up with the main body. Genghis risked annihilation of the whole force if the Wang Khan, instead of retiring, had decided to attack one more time. Genghis held his position, at the risk of his own death and that of his entire army, until his loyal soldiers who had outflanked the enemy, returned to the main body. Genghis must have realized if his advisors were willing to abandon the troops who had done so well in saving the day, the troops themselves must have harbored similar thoughts.

He had to therefore standardize the conduct that was acceptable for both his leaders and his soldiers. His vision of a cohesive force bound together in mutual trust and comradeship was translated to paper in the Yassa. In order that all soldiers, including leaders, understand and comply with his rules of personal behavior, the violation of a rule of the Yassa was most often punishable by the sentence that all warriors of the era could identify with death. Michael Prawdin says that . . .

At a later date, when Temuchin had become lord 'of all the peoples dwelling in felt tents,' whom he had united into one armed nation, he gave this obligation of comradeship in extremity the force of law. The smallest unit of his armies, consisting of nine men with a tenth in command, was composed of persons bound together for life or for death. They must allow themselves to be cut to pieces rather than abandon one of them who was wounded.<sup>23</sup> He who forsook a comrade would ruthlessly be put to death.

The contradiction unveiled here must be explained. Why, if Genghis saw a force built upon the bonds of family ties which are very hard to break, did he need a Code of Conduct like the Yassa to insure that control of the steppe warrior could be maintained? The answer is probably composed of two parts. Contrary to Devereaux's assessment, the Mongol warrior, as a member of a tribe, enjoyed relative freedom in his life. Devereaux, in his analysis of the Yassa, says . . .

The Mongols, the peoples of Soviet Asia, and the Chinese--even before Genghis' time--had never known freedom nor insisted on their<sup>24</sup> individuality, but had obeyed their leaders without question.

Devereaux's error is to include the Mongols before Genghis's time in this assessment. Certainly the Chinese enjoyed precious little freedom and

perhaps the peoples of Soviet Asia prior to Genghis obeyed their leader without question.

The pre-1200 A. D. Mongol, however, enjoyed a freedom unknown to his Chinese neighbors. As explained before, the steppe nomad, if unsatisfied with the protection his tribal leader offered, simply defected to another tribe or struck out on his own, accepting the often brutal circumstances of his decision. Therefore, the Yassa was Genghis's tool to keep this "free spirit" mentality in check, and more importantly to insure the survivability of the force. Secondarily, Genghis must have realized that the great campaigns required to achieve his strategic vision of world rule would bring his warriors into contact with other cultures and their influences. The Yassa must also have been intended to serve as a continuing reminder for both his leaders and soldiers, tempted by the attractions of cultures thousands of miles from home, that there was a standard of conduct they must adhere to even when separated by many leagues from the man who gave the Yassa its power. Something akin to the phrase "how're you going to keep them down on the farm after they've seen Paris" must have been going through Genghis's mind. His phrase would have been something like, "how can I keep my army intact after they've seen Peking?" The lure of luxury in foreign kingdoms would certainly be a powerful force in reducing the nomad repugnance for a sedentary life. Kubilai Khan, Genghis's grandson, in founding the Yuan dynasty of China, would not realize his error until too late. For these two reasons then, the contradiction becomes clear.

The Yassa would be the reminder of the warrior's duty to his homeland and serve as the flux which bound together the fighting units of the Army. The troop of ten men then, training and fighting as the basic tactical unit of the Mongol army, bound together by kinship, and controlled by the ruthless dogma of the Yassa, established the base for which the Mongols were to construct a system of unit control. Here is the core of the Mongol ability to achieve a span of control twice the size that current U. S. Army doctrine says one leader can achieve.

If individual control was difficult to attain, unit control was relatively easy. With the ten man arban (squad), disciplined by training, bound together by family links, and the Yassa, the Mongol leadership had to simply capitalize on the unit control techniques taught to them by the T'ang Chinese. Unit control is subdivided into two areas; tactical and operational.<sup>25</sup> Tactical controls are those used to form, move, and change direction of units within eye and earshot of the commander in the battle area. Operational controls are those employed by a commander who cannot communicate directly with units operating under his control by either visual or audible signal. The tactical controls will be analyzed first.

C. C. Walker, who has done superb work in analyzing the Mongol military methods, says "all the details of communication, their methods of signalling, their scouting system, are lacking in the most exasperating manner."<sup>26</sup> In the succeeding fifty years, there has been little done to

change his evaluation. Generally there is unanimous agreement on what devices were used in tactical control of units but absolutely nothing exists (in the English language) to explain what the devices and signals directed units to do. Immediate tactical control was maintained by the leaders both in the ranks and leaders observing the action from high ground in the battlefield. N. Yamada, describing the actions of Mongol units in the campaigns against Japan, says that . . .

The invaders moved in unchanging formation, obeying signals from their commanding officers, who watched their evolutions from an eminence.

Regrettably, Yamada, nor any other scholar, can accurately describe which commanders were on the eminence and which were in the battle. Based on size alone, a reasonable estimate would be that possibly the regimental (minghan) commanders, leading ten squadrons of one hundred each, were the observers, while the squadron commanders were fighting leaders. Chambers lends credence to this evaluation as orders "were conveyed by waving standards and in the units delegated to carry out the orders, the officers passed them on to their men by repeating the signal with their swords."<sup>28</sup> The ability of a thousand man regiment to see a sword-signal, even in the open country style of cavalry warfare, would have been initially nil. Realistically, a one hundred man troop could respond to such a signal, especially if the strength of the squadron was reduced to eighty or so as a result of casualties. The troop of ten warriors would not require an elaborate signaling procedure as the proximity of the fighters to each other must have allowed voice commands to be sufficient.

Not only was the standard (normally a pole with distinctive decorations at the top) used but also many other varied tactical control signals. The steppe warrior leadership used whistling and incendiary arrows, colored lanterns, large black and white flags with squares of contrasting colors in the center, bugle calls, and drums. Research into many different sources has produced no explanations of the meaning of these various tactical unit controls. A full appreciation of the brilliant tactics used by the Mongols suffers for lack of this knowledge.

While the meaning of tactical control signals is unknown, the method of operational control is not so. Operational control was maintained by the Mongol scouting system. Chambers remarks that . . .

Each carefully-designed campaign was a masterpiece of original and imaginative strategy and Mongol commanders could not have planned with as much breadth and daring as they did without absolute confidence in their communications.<sup>29</sup>

The Mongol scouting system was the key method of transmitting operational control orders in the field. Remembering that the scouts worked primarily for the "far and near arrows" staff officer (G2) at the General Staff level, each division also had their own scouts. Since the standard operational formation for an army on campaign was for several tumen to travel in a column, as a field army and for the two or three armies to operate on separate axis of advance, each field army operated a scout screen which preceded the main body by two days, ranging from seventy-five to a hundred and fifty miles ahead and to the flanks. C. C. Walker

theorizes that the key to the Mongol abilities was the scouting system. Nothing was left undetected and the screen denied the enemy knowledge of a position of the main body.<sup>30</sup> These scouts not only reported information on enemy activity, they also passed commands to the advance guards who might be used to contact the enemy and develop the situation. Once in contact, the scouts would rapidly return to the tumen or field army commander, relaying situation reports and then return to the committed unit with further orders and information on the direction and intention of the main body forces.

The scouts and couriers from the G2 then, kept the information flowing between committed and maneuvering units. That units, separated by vast distances, could keep in touch with each other and maneuver consistently to surprise the enemy is one of the most tremendous achievements of the control system of the Mongols. It is even more fantastic when realized that the Mongol cavalry operated for months in the field, over vast distances and habitually linked up with each other with uncanny accuracy without using maps. Peter Brent, in summing up this incredible control mechanism says the . . .

communication system . . . was based on the 'arrow-riders'-men who bandaged their bodies against the harsh blows and aching fatigue of hours of hard riding, before setting off across the steppe, changing horses as weariness caused mount after mount to slow and falter, eating and sleeping as they rode and covering huge distances in a matter of hours, their endurance a byword, their speed unparalleled in the unmechanized, pre-electronic world.<sup>31</sup>

The Mongol operational control methods of using scouts and couriers was supported by frequent use of carrier pigeons between the field army and the divisions as well as between the army and the Mongol capital.

In order to support the operational forces in the field and the scouts and couriers working for them, the Mongols habitually established post-houses or yams behind the advancing forces. These houses would serve not only to provide food, drink, rest, and remounts for the "arrow-riders" but to assist in the security of the extended lines of communication from the area of operations back to the Gobi. As the Mongol conquests turned conquered areas into provinces of the Khan's territory, the post-houses became permanent fixtures, serving to garrison small detachments who provided security for trade caravans crossing from Europe to China. An example of the length and complexity of this communications system can be demonstrated in the system created to support communication between Karakorum (just south of Lake Baikal) and Korea. "The post-houses established for the "inter-Korean peninsula and the to-the-capital [Karakorum] communications were placed on twenty-two different routes with 525 stations along the routes."<sup>32</sup> This system covered a line of communication of about 1400 miles. Control and communications then were the figures of efficiency for the Mongols.

Having discussed the organization, training, and control methods of the Mongol army, Part IV concludes this chapter with a discussion of the logistics aspects of the Mongol war machine and how they sustained the fight.

## PART FOUR

### SUSTAINING THE FIGHT

Temujin's aurug, his headquarters camp, was at this time at the lake called Hariltu Nor. His people were too numerous now to move about the country in a body, as they had done in the old and simpler days, when he separated from Jamukha, and the clansmen first came to join him. Now the camps of his dependent clansmen covered a wide area, pasturing on the steppes the animals lived on . . . His Army, too, lived in camps scattered about the steppes, each with its own horseherds and means of sustenance, exercising under his appointed captains.<sup>33</sup>

Early Mongol logistics was simple, as evidenced in the quotation above which describes the essence of that system. Each army (of the West, Center, and East) was responsible for its own logistics both in peacetime and war. As described before, logistics, in the later years, became the responsibility of the "overseer of the preparation of carts" (Yurtchi) or the G4.

In the early, simpler years no such position existed. The Mongol army (prior to 1206) lived off the land. There was no logistics staff officers, nor a requirement for one. Each Mongol soldier prepared and carried his iron ration and bladder of mare's milk. Resupply of individual rations was the warrior's responsibility and easily done since mares were a preferred horse, carrying a ready resupply of milk. Iron rations were prepared from either lambs owned by the warrior or game. Each soldier carried tools to both make and maintain his weapons. Rearmament was simple also. It was accomplished by taking the weapons of both dead comrades and enemies and

redistributing them to warriors needing them. As the army grew, however, more centralized control of both the grazing land which fed the horses and the vast amount of weapons in the hands of the army was required.

Grazing land could be stripped bare if too many elements of the army used it, while other grazing land might be ignored, due to arbitrary placement of camps on the steppe. In order to regulate pasturage, the offices of "overseers of horse and sheep pasturage" were created. These general staff officers regulated grazing land not only on the steppe but, under the guidance of the "overseer of preparation of carts," also managed pasturage for the armies enroute to and within an objective area. There is a very real similarity here to the Napoleonic system of living off the land. The primary logistics task for the cavalry based Mongol army was maintenance of adequate horse pasturage and large stocks of remounts. With a hardy pony, capable of sustaining itself on sparse vegetation, the first part of this task was not difficult. The task of maintaining remounts was not as easy.

W. H. Cureton provides examples of the Mongol leadership's appreciation of the need to sustain an operation with a steady supply of remounts. In both the campaign in Persia of 1219 and Europe in 1237, the Mongol army spent an entire season, summer and fall respectively, in establishing remount depots. If each steppe warrior took three or four horses with him, as personal remounts, the size of the depot he drew from must have been tremendous. In the Persian campaign, it is estimated at less

than 50,000 warriors took part. Simple multiplication means the remount depot would have to have been composed of between 150,000 and 200,000 horses. The energy and manpower involved in capturing this many horses to keep the warrior resupplied must have been exhausting for the staff officers responsible for these tasks. As long as the army remained primarily a cavalry arm, horses then were the logistic tail of the army.

The relative freedom of movement out to the edges of the steppe, controlled by Genghis, made a significant difference, however, for the Mongol logistician, as opposed to one working under Napoleon. In Mongol logistics, the logistic train moved ahead of attacking forces, rather than behind it. Preparation of grazing lands, movement of weapons, and remounts occurred prior to the movement of combat forces. The army linked up with the logistic base after it had been prepared. That the Mongols were able to move to and establish such logistics bases on the periphery of nations to be invaded, without alarming the threatened nation, risking destruction of the base areas by a mobilized army from the intended victim, is an example of how the Mongols employed deception in every facet of their operations. Logistics columns, moving horses and weapons to the logistics base were disguised as merchant caravans. These caravans, a routine sight in Asia, made perfect camouflage for Mongol intentions. While weapons and supplies were carried in the caravans, the movement of the remount herds must have been on separate routes, the herds kept small and consolidated at the depot in the closing phase of the logistics buildup. A separate word about the movement of weapons is required.

For Genghis and his generals, large quantities of weapons, retained by the warriors in the ever-expanding Mongol army, posed a threat to the Khan's security. Although Genghis was guarded by an elite force of personal bodyguards, a chieftain, motivated by dreams of glory or seeking retribution for injury to his or his army's honor, could foment rebellion and attack the Khan if he had weapons readily at hand. To negate this possible threat, Genghis created the general staff positions of "to carry the swords and bows and arrows in one place." These staff officers would insure that Genghis could maintain "control over their weapons. Enormous stocks of armament were kept locked up in supply depots and great warehouses and issued only when the time was deemed appropriate."<sup>34</sup> Therefore, there was an element of self-preservation in the logistic system. Additionally, there was tactical value in this system. A Mongol army, appreciably lighter in weight, moving without weapons, could move faster from the mobilization point to the logistic base, thereby reducing the enemy's reaction time and also save wear and tear on the horses during the initial move. For example, it was not unusual for an army, moving to the logistics base, to achieve six hundred miles in five days.<sup>35</sup>

Siege warfare was to alter the characteristics of the logistics train and, to some degree, this rapid rate of march of a cavalry army. With the advent of Mongol siege weapons, required to reduce the positional defences of the Chinese, Persians, and Europeans, the logistics train fell behind the army instead of preceding it. Laffont tells us that the "Khwarezim

campaign was supported by thousands of supply chariots.<sup>36</sup> Previously, only a small camel caravan, as mobile as the fighters, followed each column carrying a minimum of supplies.<sup>37</sup> In addition to the engines of war, an entourage of Chinese and Persian technicians, conscripted for their talents in fabrication of siege weapons, was hauled along behind the armies. These artisans were also employed to make tools and hand-held weapons for the warriors.

Therefore, the logistic train increased in size, swelled by addition of these technicians, artisans, and siege weapons, and consequently complicated matters for the logistics staff officers. Concurrently, there was a drain on Mongol manpower. Warriors had to be detailed to guard these conscripted servants of the Mongol army. With the increase in requirements to feed the artisan and technicians, plus to assist in the preparation of iron rations for the Mongol guards, the "overseer of food and drink" (ration officer) must have been hardpressed to insure everyone was fed.

From a very simple logistics system, based on the discipline of the individual steppe warrior, the logistics system grew, in one decade, to a complex but efficient staff support system, sustaining an equally complex field army, replete with engines of war and all the paraphernalia accompanying that style of warfare.

Having outlined the Mongol staff system, organization of forces, training system, control methods, and logistics, it is now necessary to describe the combination of all these systems into Mongol tactical techniques. These will be illustrated by a review of four selected operations in the four theaters of Mongol conquest. A discussion of basic Mongol tactical doctrine prefaces this review.

## CHAPTER 4

### MONGOL TACTICS

#### PART I

##### THE GIMLET

We will march in the order 'thick grass,' take up positions in the 'lake' battle order, and fight in the manner called 'gimlet.'

So gave Genghis his orders for the tactical disposition of his troops as they prepared to meet the Naimans at Mount Naku (or Chakirma'ut) in 1204. There is nothing in the English language to describe what the manner of fighting "the gimlet" was, nor any of the other codewords given above. Research, however, has produced enough information to describe how the Mongols fought and the variations of their tactical techniques. Generally, their tactics were simple but at the same time inherently flexible, having innumerable and variable options. Mongol tactics can be divided into two general areas; maneuver tactics used in pure cavalry operations, and pursuit tactics used after the introduction of siege warfare. With the advent of siege warfare, cavalry tactics were generally used to supplement siege operations when the latter activity was required to reduce a positional defense. Before a description of those tactics is given, comments are required to clear up a dangerous perception by some scholars, uncovered during the research, that Mongol tactics lacked originality and were rigid in conception.

Liddell Hart, in 1927, says that . . .

Alone of the armies of their time had they grasped the essentials of strategy, while their tactical mechanism was so perfect that the higher conceptions of tactics were unnecessary.<sup>2</sup>

Hart continues in his analysis to say that the . . .

Tactics of the Mongol Army were rigid on conception, without possibility of wide variation, but flexible in execution. They [Mongol] tactics were indeed built upon a definite framework of tactical moves, so that they resembled an applied battle drill. The analogy [to a rigid conception] is further heightened by the fact that the different manoeuvres were directed by signals, so that the delays and upsets caused by orders and messages were obviated.<sup>3</sup>

Lynn Montross, in 1960, almost copies Hart's assessment but goes one step further.

The Mongol tactical system, rigid in conception, had been designed to foresee any problem which might arise in the field. The officer had only to give the indicated command at the proper moment, his thinking having been done in advance for him by military scientists.<sup>4</sup>

Montross concludes his analysis with this fascinating thesis.

But after establishing the principle, [of iron discipline and death for cowardly behavior, such as fleeing battle, or a commander losing control] it would appear that the commanders earnestly desired to spare the warrior's courage too severe a test. For in contrast to Byzantine cavalry tactics, founded on successive shocks, the Mongol horse-archer came in contact only with a demoralized foe. This preference [to avoid close combat] was made the foundation of the whole tactical mechanism.<sup>5</sup>

Perhaps Hart and Montross did not conduct detailed research on the Mongol tactical system, their campaigns, and the techniques used, or maybe they were simply evaluating Mongol conduct in light of the theories of

these two scholars time (Montross first published War Through the Ages in 1944.) While it is true that the Mongol leadership believed in battle drill and practiced it until exhaustion, and the control systems, both individual and unit, were standardized in the interest of efficiency and continuity, those training and signal techniques certainly did not result in a system "rigid in conception" nor obviate an appreciation and search for the "higher conceptions of tactics." Mongol leadership, trained in the sham-fight and great hunt, and placed in charge of combat units by their demonstrated ability to lead and think on their feet (horse), certainly did not have his thinking done "in advance for him by military scientists." To conclude that the basis for the "whole tactical mechanism" was to avoid close combat is not only subjective at best but demonstrates a lack of study of their combat experiences. Montross's comment on Byzantine tactics of "successive shocks" might lead one to believe that Montross found great value in the frontal attack with all its accompanying useless death and agony and little value in the Mongol tactic of maneuver to the point of weakest strength. Interestingly, neither scholar defines the meaning of "rigid in conception" nor cites the source of their idea.

Rather than risk a charge of impassioned bias, the analysis that follows will seek to not only describe a tactical system but prove that the system was anything but what these scholars have described.

Mongol tactics, like their organization and weapons, were an evolution and modification of tactics used by cavalry warriors centuries before their time. They inherited tactics "from the Huns, Scythians, and Sarmations."<sup>6</sup> In some battles, they used tactics which were a proven concept, employed by the Jurchids against superior forces. Mark Elvin provides a valuable analysis of the source of Mongol tactics.

In the field of battle the Mongols used essentially the same techniques as the Chin but with an improvement that may have been significant. While they [the Mongols] too protected their lightly armoured bowmen behind a wall of heavily armoured horsemen carrying lances, their front line of cavalry was not a solid shield but divided into sections, so that there were gaps through which the archers could advance or retreat.<sup>7</sup>

From all these cultures and armies, the Mongols evolved a tactical system not entirely new but also not without important modifications which capitalized on the terrible, devastating accuracy of their bows, the speed and endurance of their horses, and the incredible ferocity of the steppe warrior in combat. Of all these, the Mongol leadership understood that the primacy of speed, when coupled with maneuver oriented tactics, would be key to their success, especially against numerically superior enemies. Before a detailed review of these tactics is given, a discussion of the march tactics, actions of the outguards and scouts upon contact, and movement to destroy the main body of enemy forces, before actual battle tactics would be applied, is required. Figure Six shows the general organization of a regiment (minghan) on a tactical march or movement to contact. During the following discussions, the forces shown or described will generally be

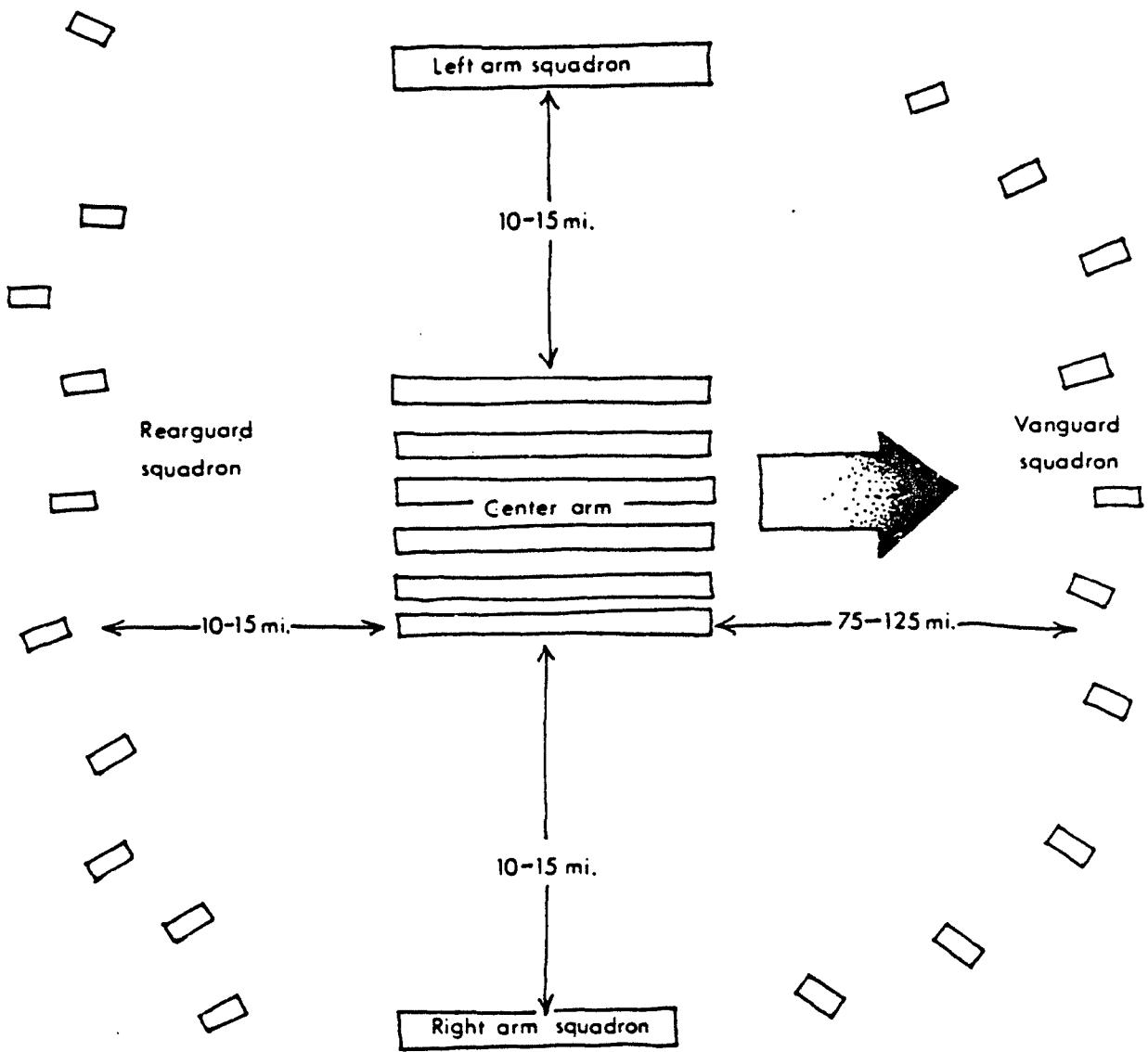


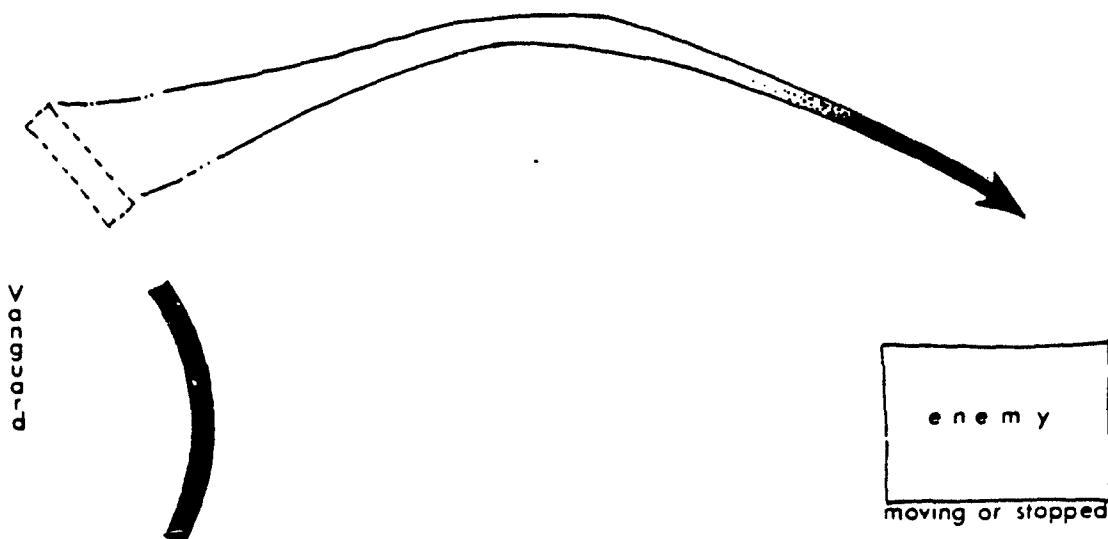
FIGURE SIX

MONGOL REGIMENT IN COLUMN MARCH  
78

based on the thousand man regiment of ten, one-hundred-man, squadrons. The column movement of a force (regiment and above) consisted of five sections, shown at Figure Six. A center arm (main body), right and left arms (flank security), rear guard, and vanguard (advance guard).<sup>8</sup> Variations of the scheme shown in Figure Six were many. The formations adopted, during any one campaign or movement to contact, were based on the terrain and enemy disposition, strength, and perceived intent. Once the true intent of the enemy was detected, the formation was modified very rapidly, via tactical and operational control signals, to create an advantage for the Mongol. Robert Laffont provides the first clue to revealing that the Mongol tactics were anything but rigid in conception. He says that the cavalrymen fought in either open file, closed file, or in a broken formation of either staggered left or staggered right, and that these variations were chosen based on terrain and enemy organizations.<sup>9</sup>

Figure Seven shows the movements of a regiment when contacting the enemy force head-on. When the force was in the "prepared to engage" configuration, the use of either the closed or open file tactic was possible. Figure Seven shows the three squadrons of light cavalry (archers) prepared to fight in either the open or closed file tactic. The squadrons are aligned along the axis of advance, rather than at right angles. Generally, sources display these squadrons at right angles to the axis of advance. An explanation of the theory behind the arrangement shown in Figure Seven is required.

CONTACT



PREPARED TO ENGAGE

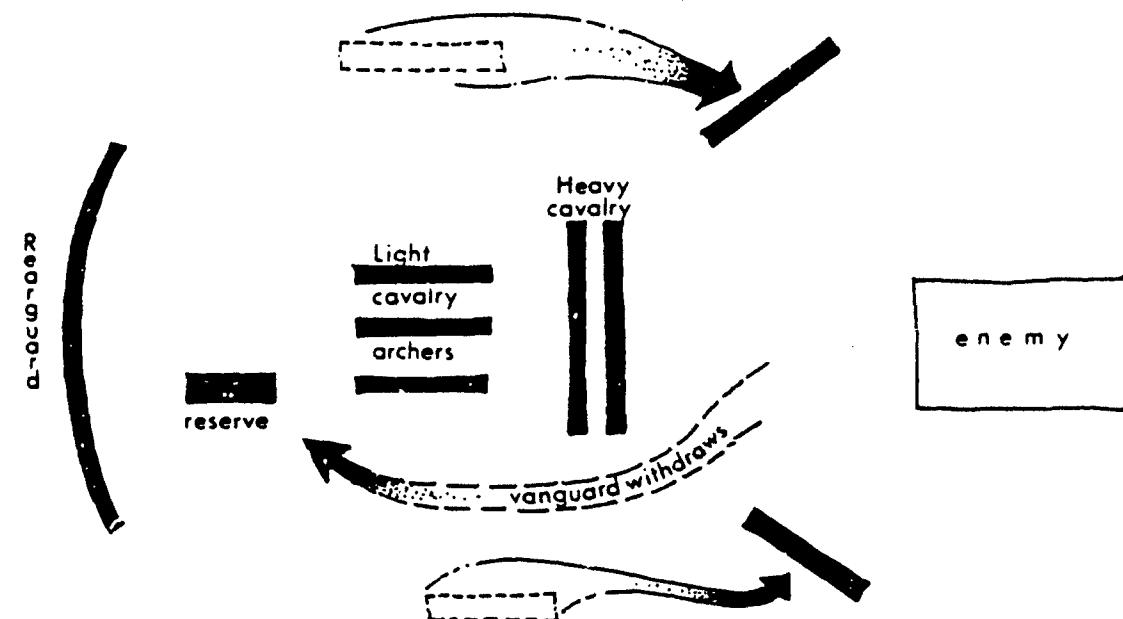


FIGURE SEVEN  
REGIMENTAL MANUEVER IN HEAD ON CONTACT  
80

Remembering that each long rectangle represents a squadron of one hundred men, it seems most logical that the light cavalry be aligned along the axis of advance to insure maximum control both prior to and during the fight. Rather than turn both the heavy cavalry and archers into right angles to the enemy, leaving the archers in column march order behind the heavies would not only reduce movement, requiring fewer signals, it would also leave the archers in the most efficient configuration to use the open file or closed file tactic, depending on the situation. The reason the alignment of the light cavalry squadrons might be questionable will be shown in Part Two, when the force attacked by the Mongols uses a very similar maneuver to prepare to engage the Mongols. The singular difference is the interpretation of the alignment of the light cavalry.

Figure Eight depicts a fight conducted using open file tactics. This tactic, estimated by Elvin to be a significant Mongol improvement, was also practiced by at least one other tribe in central Asia. Whether this tribe (or others) learned it from the Mongols, vice versa, or from a predecessor of both, is unclear. Open file tactics simply had the three squadrons (or regiments) pass through the two squadrons of heavy cavalry to fire an arrow storm into the ranks of the enemy force to the front. The archers retired quickly with the center squadron returning through gaps in the center area of the heavy cavalry, and the flank archer squadrons returning outside the two ranks of heavies, probably inside the protection of the wing squadrons. This storm of arrows served to kill as many of the foe as possible, pre-

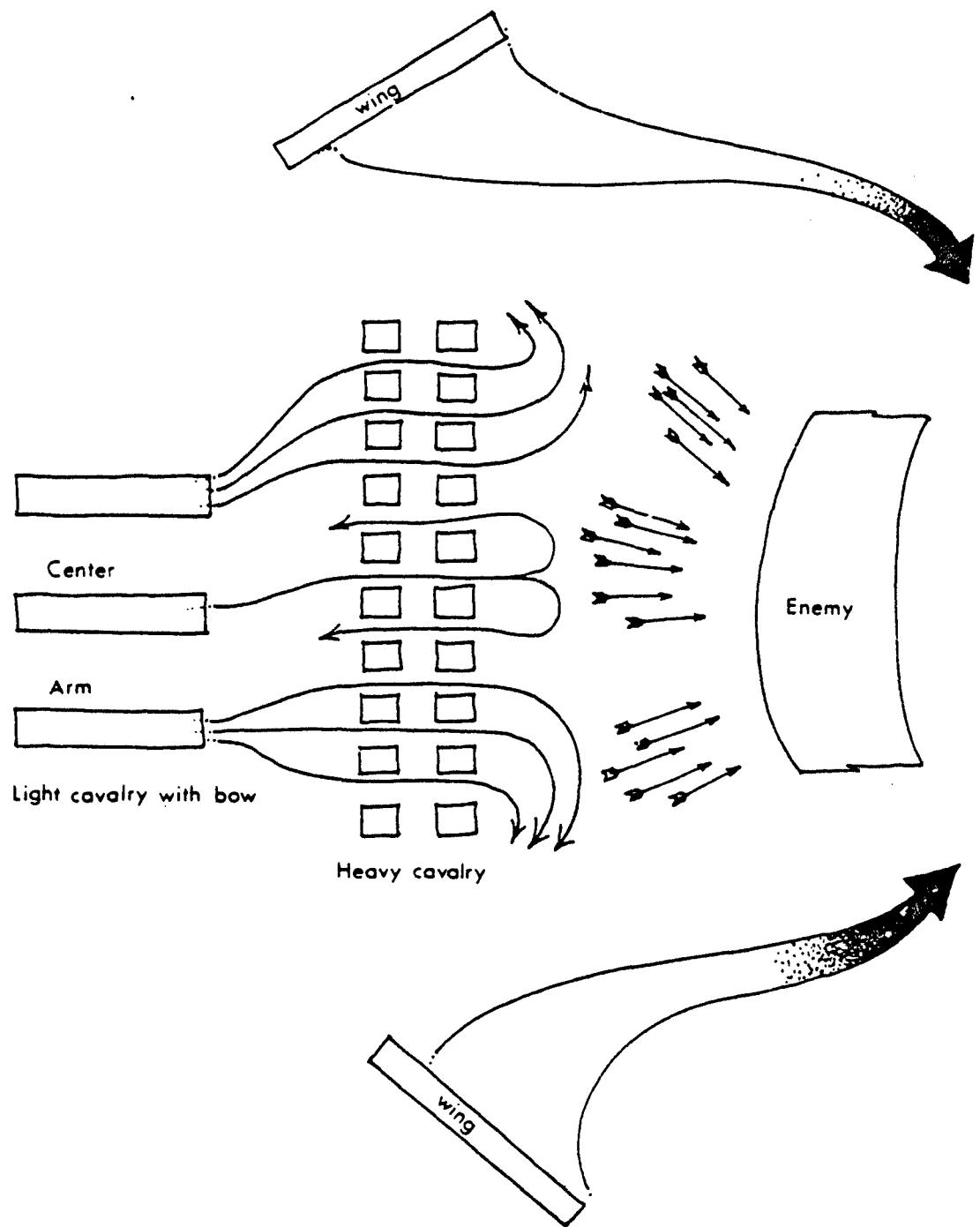


FIGURE EIGHT

OPEN FILE TACTICS

ferably their leaders, create confusion in their ranks as they sorted out the dead and wounded, and demoralize survivors. In this state of enemy mayhem the Mongol heavy cavalry charged, smashing the ranks of the enemy with axe, lance, and sword. Once dismembered as an organized force, the enemy was defeated in detail by the wheeling squadrons of Mongol heavy cavalry, using the valuable skills learned in the sham-fight, while those enemy who fled were pursued mercilessly by the faster Mongol light cavalry and destroyed. Throughout a combat such as this, the Mongol never relaxed his external security squadrons conducting rearguard and flank security operations. The scouts continued their vigilance far away from the main battle area to insure enemy reinforcements would not surprise the Mongol forces in contact.

Closed file tactics differed only in the actions of the light cavalry. Instead of moving through the heavies, the archers poured their fire into the enemy from behind the front squadrons. This technique was obviously used when the enemy had a strong force of well-trained archers who could easily destroy the light Mongol archer as he sallied around the front of the enemy.

It must be stressed that the head-on engagement depicted in Figure Eight was the least desired form a contact. If possible, the Mongol commander would try to disrupt the enemy by engaging his flanks and rear, well before the main body forces came into contact. In order to do this, the Mongol commander used his vanguard and flank forces to develop the situation.

Based on the enemy strength and intent, the Mongol light cavalry of one of the flank squadrons might be sent forward to hit the flank of the enemy at right angles with an arrow storm. This strike of the wing could occur while the center arm was still miles from the enemy. The commander would then employ a "standard sweep," with the heavy cavalry knifing into the disrupted flank at full gallop.<sup>10</sup> Even during the harrassing action of the vanguard, if a gap was found or could be formed by the relatively insignificant combat power that could be generated by two or three troops (from the vanguard squadron), then the Mongol immediately maneuvered to exploit the opportunity, using tactics that fit that particular situation and advantage. The Regimental Commander might dispatch only one or two squadrons to create havoc in the gap thus formed and save the rest of his regiment to destroy the enemy and defeat in detail a confused and demoralized foe. If the situation allowed it, "sometimes, on the contrary, the heavy cavalry charged en masse to penetrate the enemy's center and split his forces in two."<sup>11</sup> This tactic, besides being terrifying to an unprepared enemy thereby increasing his confusion, was economical. Thousands of arrows were saved and insured a minimal loss of combat power.

The staggered right or left tactic was simply a variation based on the situation. If the Mongol force contacted the enemy when both forces were converging, in the manner of a letter V, to a point, the staggered formation would most rapidly place the Mongol power immediately into the enemy's flank.

Using the speed and shock affect of arrow and heavy cavalry then, Mongol cavalry tactics were based on historical experience, an efficient organization, and brilliant leaders taught to think fast and execute swiftly. The other significant influence on Mongol tactics was a fanatical devotion to a policy of deception at every level of operations. Of their deception operations, the most often used, almost routinely successful technique employed, was the feigned retreat or baited gambit. It is highly probable that Montross's estimate, (that the Mongol tactics were based on avoiding close combat, because the steppe warrior lacked courage) is based on a faulty understanding of this deception tactic. The feigned retreat was generally employed by units above troop level. The history of Mongol campaigns is filled with examples of squadrons, divisions, and complete armies, after contacting the enemy, withdrawing in their sight, enticing the enemy to attack or pursue, believing they had managed to scare off the Mongols, only to be trapped by the main body or center arm, in an ambush. The ambushes were devastating. The light cavalry fired the terrible arrow storm into the totally unsuspecting, pursuing enemy. Under this supporting fire the heavy cavalry would smash into the surprised enemy from both sides and the rear, often killing the foe to the last man.

Significantly, the Chinese were to learn very quickly not to make this mistake twice and after being initially devastated, avoided open field fighting with the Mongols. The Chinese turned to positional defense to reduce the effectiveness of Mongol superiority in the field. Genghis was therefore forced to learn siegework in order to defeat the Chinese.

The Persians also learned this lesson of Mongol ambush tactics but on occasion still sallied forth to meet the Mongol in open warfare. The Europeans apparently never learned the lesson. In 1222, the combined army of Russians and Kipchaks were deceived (for nine or eleven days) into pursuing the gambit force. Finally, they entered the ambush site, strung out and exhausted by their pursuit, and were crushed by the Mongol force led by Jebe and Subedei. The Europeans had twenty years to absorb this lesson, but failed. In 1241, a combined army of Germans and Poles, led by Prince Henry of Silesia, were ambushed and annihilated by forces using the same feigned retreat, again led by Subedei. This tactic never lost its value as General Zafar Khan, commanding forces belonging to Sultan Ala ad-Din Khilji, was to learn. At Delhi, of modern day India, in 1299, his army was annihilated in an ambush, which he was led into for thirty-six miles by the gambit force.

Mongol deception doctrine was most assuredly based, in part, on the Chinese advisors to Genghis Khan instructing him on Sun-Tzu's writings on warfare. Mongol deceptions were employed wherever conditions allowed. A standard tactic was to create an illusion of a Mongol force to be larger than it really was. In 1221, during the Persian campaign, at a place called Lugar, near the Kabul river (in present day Afghanistan), the Mongols prepared straw dummies, mounted them on their spare remounts, and totally confused the Persian Army as to their actual strength.

Psychological deception was employed, when conditions allowed, also. In Persia, the Mongols prepared a fake letter designed to unsettle the Shah's mind. The letter was written to the Shah's mother thanking her for her assistance to the Mongol cause. Genghis allowed the letter to be captured by the Shah who was already wary of the loyalty of the Turk generals in his army. These Turk generals were from his mother's tribe. Because the Shah had little faith in his Turk allies and believed the fake letter, this deception reinforced the Shah's decision to remain in his garrison, allowing the Mongols free reign over his country. In actuality, the Shah's mother had not, nor did she ever ally herself with the Mongols. The deception worked. In Europe a rumor was started among the Hungarians that their Cuman allies were going to go over to the Mongols. This rumor caused a very tenuous alliance to further disintegrate to a point where constructive effort between the Hungarians and the Cumans ceased. Undoubtedly this rumor was started and fed by Mongol spies and infiltrators who had been in place for twenty years.

Tactical deception, however, proved the most convincing. By lighting numerous campfires and leaving a small force to simulate camp activities, a Persian army was deceived into believing the Mongols were still in view, when actually they had withdrawn under the cover of darkness and were maneuvering to the Persian rear. It seems that Genghis and his leadership took seriously the Sun-Tzu maxim that all warfare is based on deception.

The use of deception carried over to siege warfare tactics also. Lynn Montross provides a good overview of siege tactics, even though he reiterates his thesis of Mongol disinclination for close combat in this rather contradictory passage.

In siegework, as on the battlefield, the system operated with cold efficiency. First came the secret agents to take advantage of cowardice or treachery. If they failed, the next step was blockade and bombardment by the war engines, whose essential parts were carried on pack horses. Finally, if a city could neither be betrayed, battered, nor starved into submission, the terrible "endless storm" took place. This continuous day-and-night attack was carried on by troops serving in relays. Here again, the Mongol esteem for the whole skin is apparent, for there appears to have been little idea of forcing an entrance by hard fighting.

The Mongol engineers employed every known trick of seige warfare before committing troops to the least desirable solution of making the frontal assault. Scaling towers at a point of weak defense, tunnels, redirecting rivers to flood the defensive position, all were attempted before having to resort to the "endless storm." Research proves that the "endless storm" involved much hard fighting. Here again Montross implies that only a cowardly leader or warrior would not first fight head-on, in a brutal and devastating slug-fest. A review of the tactics at Vicksburg, the frontal assault mentality of World War I, and Pork Chop hill in Korea, might prove the Mongol leadership just a bit smarter tactically than some of their more famous western counterparts. As will be shown, Mongol tacticians were masters of the indirect approach 700 years before the method became fashionable.

Maneuver tactics were obviously less valuable in support of siege warfare. By ruse and deception, however, the defender was often lured out to try and escape through the perimeter of the siege. Many times the Mongols purposefully allowed their catch to escape the net. Then, relying predominantly on ruthless pursuit tactics, the Mongols would run down the fleeing enemy. A large scale ambush was not generally used as it required more forces. The pursuit squadrons were used in an economy of force role, while the main bulk of the army concentrated on the devastation of the besieged city or town. There will be no detailed discussion of pursuit tactics used in siege warfare as they are simple in execution and almost boring in their redundant success.

The Parts that follow are divided into the four theaters in which the Mongols fought and emphasize maneuver tactics. Part Two gives a description of combat against the neighboring tribes of the steppe in Genghis's rise to power. Parts Three, Four, and Five address battles fought in the Chinese, Persian, and European theaters respectively. Only one battle from each theater will be described. The campaigns in each of these theaters did not start and conclude during any one span of time. The Mongols, during the period 1205 to 1235, invaded China twice, Persia once, and Europe twice. The battles presented will serve to highlight several things: the evolution of tactics from its' genesis on the steppes, the significant techniques used which demonstrate an appreciation for the higher conceptions of tactics, and the remarkable ingenuity of the Mongol leadership in combat operations occurring in different climates and environments.

## PART II

### BATTLE WITH THE TAIJIUT

During one of these migrations, news came that armed Taijiuts a steppe neighbor had been sighted. Before long, the advance-guard was skirmishing with them. Prisoners were brought in.

Targutai had resolved upon a decisive blow. Summoning all the Taijiuts, who hoped for rich spoils if Temuchin should be defeated, he had also won over some of the neighboring tribes and had in this way assembled 30,000 warriors under his command.

Thirteen thousand were faced by thirty thousand.<sup>13</sup>

So the stage was set for Genghis Khan (Temuchin), with his newly organized force of thirteen thousand, trained rigorously in the sham-fights, and bound to him by force and family ties, to apply his tactical skill in maneuver warfare. This battle, (Figure Nine) occurring somewhere on the steppe of central Asia, was significant for Mongol and Taijiut alike. This was the Mongol's first pitched battle, in which the newly formed army would apply the lessons learned in training. For the Taijiut, if they failed, they would be destroyed, both as a power on the steppe and a tribe. For this analysis, Michael Prawdin has been drawn from extensively. The reconstruction of positions and distances between forces, however, is a result of investigation of steppe terrain, logical space requirements, and effective range of steppe weapons.

The Mongols, then, outnumbered roughly three to one, had to prepare to fight not only the Taijiuts, but also protect their women and children who

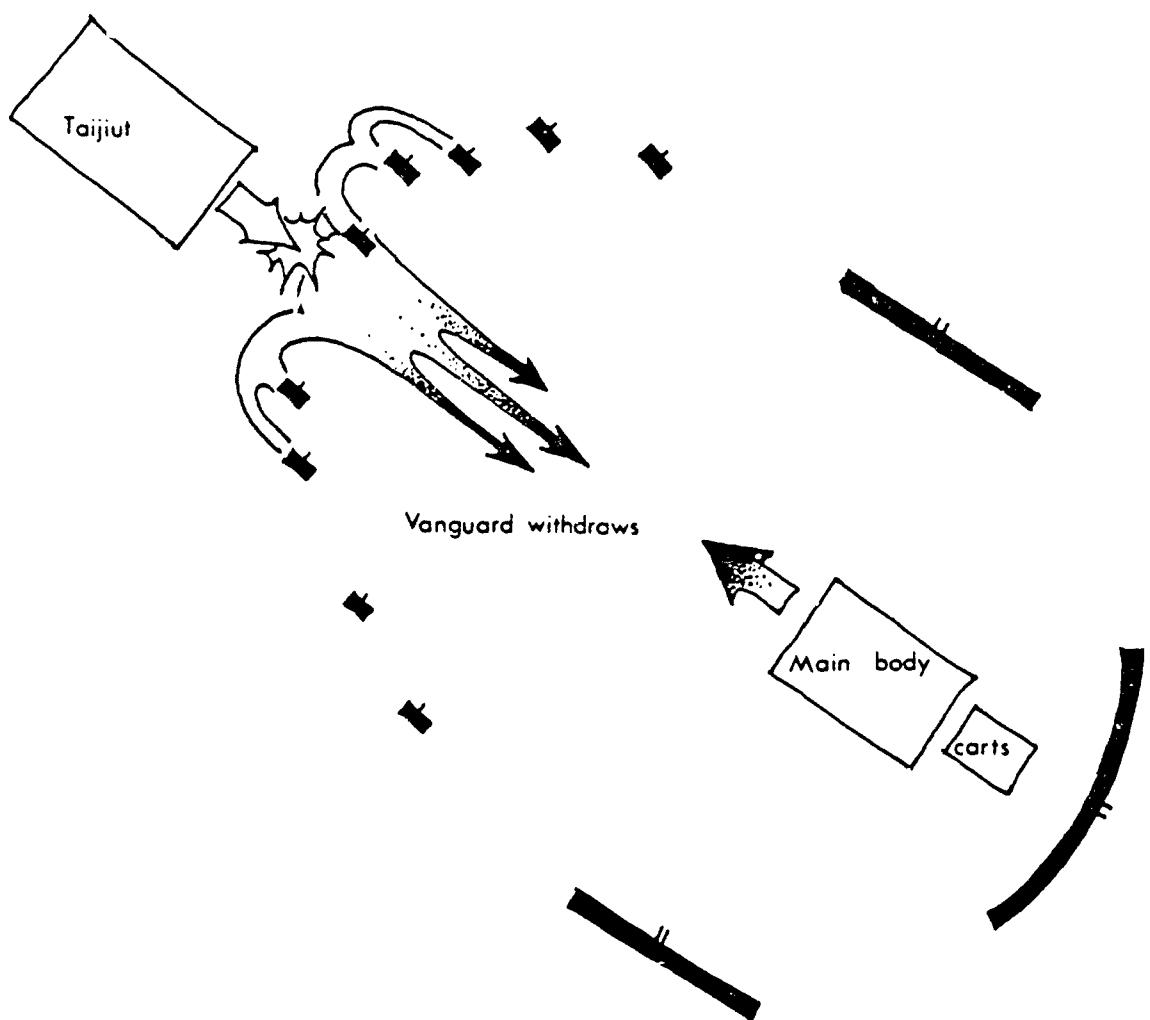


FIGURE NINE

OPENING MOVES

- Squadron
- Regiment

were accompanying them during the migration. The Taijiut had an advantage here, also, being unencumbered by a train of families. In order to reduce the vulnerability of the carts and wagons carrying the families, Genghis placed them in a circle on a wing and had them prepare to assist in their own defense with bows and arrows. He then arranged his thirteen regiments so that the opposite wing's flank was protected by a forest impassable to cavalry.<sup>14</sup> Figure Ten shows an assumed general disposition of forces prior to the fight. Actual orientation of troops (based on cardinal direction) is unknown. Genghis knew he was outnumbered and realized that if he did not employ an unorthodox tactic to defeat the Taijiut quickly, the families were doomed. He also knew the recently constructed bonds of mutual cooperation and trust in his combat units would evaporate if the warriors abandoned the immediate mission of defeating the Taijiut and broke ranks to save their kin. The months of hard training and exhausting battle-drill faced a severe test in this first major engagement. Only by a bold and audacious decision, coupled with a brazen initial move could he win. He knew that if he tried to fight the Taijiut with a standard open or closed file attack, he would lose. As the Taijiut advanced in their own open file combat formation, he must have realized the glaring weakness of the open file tactic. His greatest concern, though, must have been whether or not his warriors would stand steady in the shock of the Taijiut arrow storm. However, when the Taijiut light cavalry sallied forth and poured a murderous combination of armor-piercing and general purpose arrows into his force, they held. His regiments returned the arrow fire, probably with

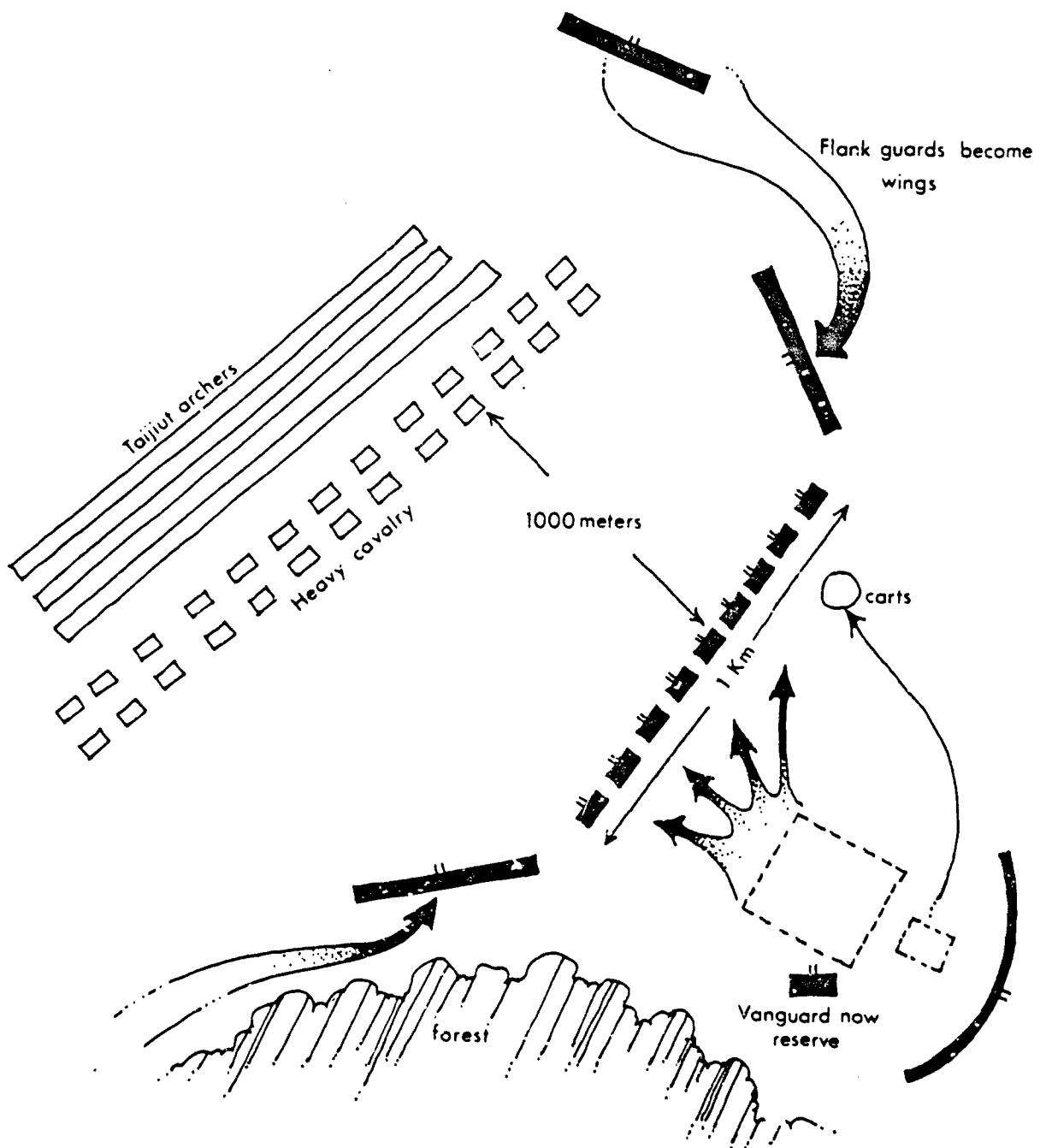


FIGURE TEN

MAIN BODY CONTACT

marginal results, against the moving enemy force. Sometime during this initial exchange, the solution struck him. The advantage was not to be in maneuver but in doing the unexpected. At the critical point of greatest possible confusion for the Taijiut, when their light cavalry would be passing back through the heavies, he struck. By either a banner or horn, he signaled the immediate charge of at least nine regiments in the Taijiut formation.<sup>15</sup>

Prawdin, or the source he drew from, errs in saying all thirteen regiments charged. This is possible but not probable since at least one regiment (the vanguard) was in reserve and the two flank guard regiments, now anchoring the wings, would not have participated in the charge. Undoubtedly the right wing regiment (assuming a disposition depicted in Figure Ten) assumed the role of protecting the carts. Prawdin indeed says a regiment (guran in his work) was close to the carts and cut down a group of Taijiut light cavalry who had made for the carts in search of loot.<sup>16</sup> The other wing regiment assuredly remained in the general area of the forest to protect the flank of the command and the rearguard remained to protect the army from attack in the rear.

While these security forces were protecting the families and periphery of the Mongol army, the nine regiments were creating absolute mayhem in the Taijiut ranks. Wheeling and charging in and around the enemy's units, these Mongol regiments caused the Taijiut to rapidly lose combat power.

The first to abandon them were the unreliable tribes who had joined only in expectation of an easy victory and much booty. Nothing in the research indicates exactly how large the Taijiut tribe (without temporary allies) was before the battle, but as the nine regiments of Mongol cavalry rammed their way through the enemy forces, killing and smashing with a brutal efficiency, the Taijiut were decimated. Both sides suffered heavy casualties but the Taijiut and their allies who stayed to fight suffered 6,000 dead and seventy leaders captured. The duration of this battle is unknown but a reasonable estimate must be that it lasted no longer than one or two hours. The day belonged to the Mongols.

Here, in this first major engagement of his newly trained army, Genghis demonstrated the genius for seeing a tactical advantage using the shock effect and speed of his well-led regiments. By bold decisionmaking, he influenced the battle's outcome before it even started. He did so even though he risked annihilation if the Taijiut were able to reform after the initial penetration of their front. By luring the Taijiut to him with his vanguard, he fought on ground of his choosing and utterly routed a force three times his size. He and his generals were to fight quite often against odds and win all those fights except two.<sup>17</sup>

## PART III

### BATTLE OF THE YANG-HO VALLEY

Chingis Khan, having crippled the Tanguts [1209-1210], was resolved to invade the Chinese empire at once.

Wishing to justify his aggression in the eyes of the world, he appealed to the vendetta existing between his family and the Chin Chinese since the twelfth century. Before setting out he ascended a high mountain . . . and implored Heaven's help. 'Oh eternal Heaven,' he cried, 'I am armed to avenge the blood of my uncles Okin Barkak and Ambakai whom the Altan Khans (Golden Emperors) slew with ignominy. If you approve, lend me help from on high and permit that here on earth men, as well as spirits good and bad, assist me.'<sup>18</sup>

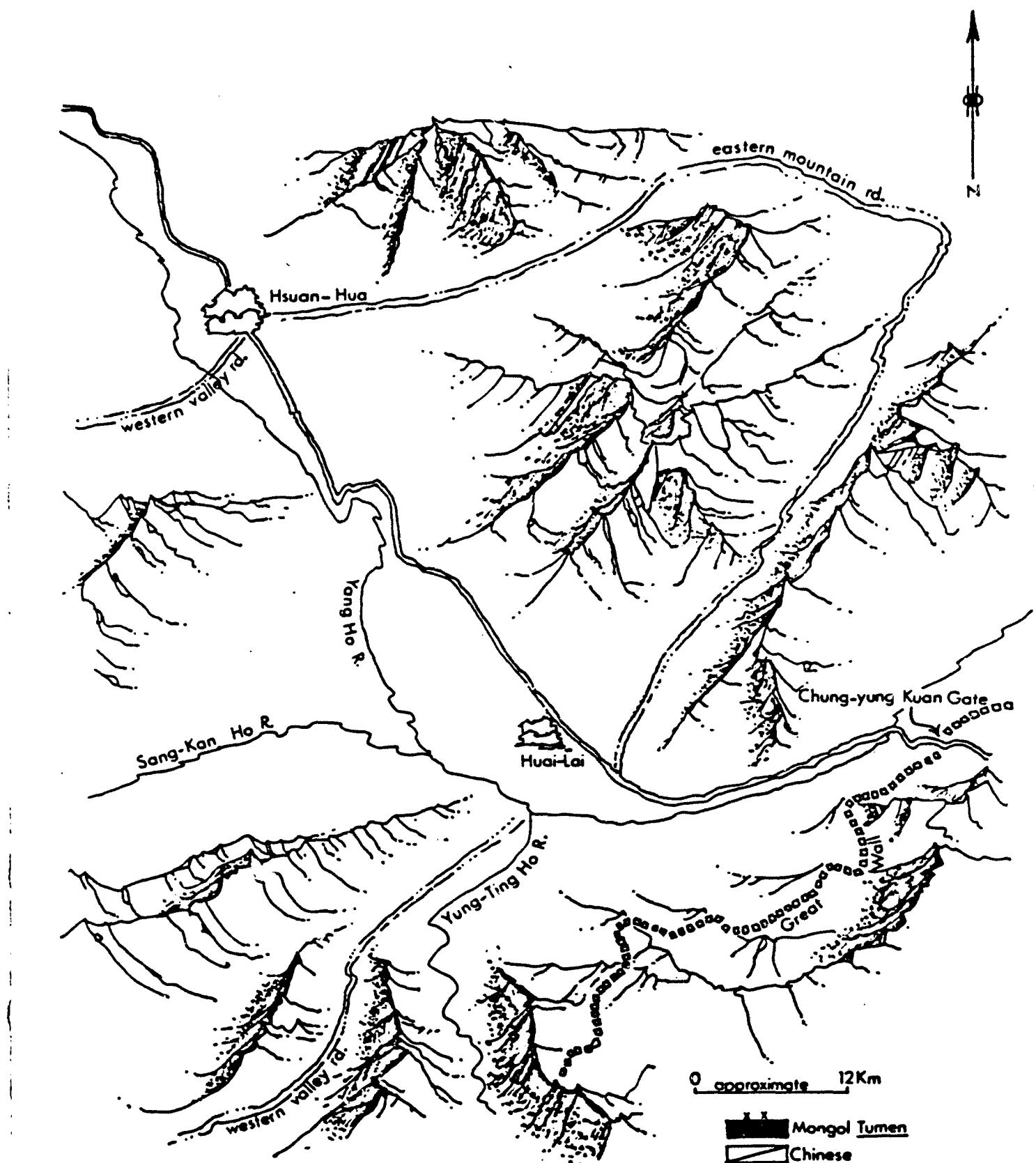
Genghis Khan's invasions of China were not based solely on revenge for his kin. Once he had established his position on the steppes of central Asia he looked both east and west. He went east first because he knew the Chinese were his closest and most powerful enemy. In order to achieve his ambition of world rule, domination of the Chinese was an inevitable task. He must have known it would not be easy and expected a long series of campaigns. He respected the Chin cavalry and their infantry, but did not fear them. When he met them in open country, maneuver-oriented combat, he destroyed them. After 1211, only occasionally did the Chin decide to leave the protection of their fortified cities and meet him in the open. They did so with an advantage in combat forces, normally two or three to one, and an incorrect assessment of the value of their infantry in swift maneuver warfare. Primarily, however, the Chin tried to beat the Mongol by having them wear themselves out in costly siege attacks on the Chin fortified cities.

Henry Martin provides an illuminating narrative of the China campaigns, complete with the best details available concerning the positional defense of the Chin, the Mongol reaction to that strategy (i.e. the learning of siege warfare), and Chin counteraction to the Mongol's newly-learned art of war. The study of the Chinese campaigns is, in fact, a suitable task for another complete thesis. Since the effort here is to portray Mongol tactics used in the maneuver style of war, there will be no discussion of those long drawn out sieges.

What will be described is a single battle that was fought in open country, during the third Mongol invasion of China, in September of 1213. This battle took place between two devastating sieges. The location of the battle was the Yang-Ho valley, less than one hundred miles northwest of present day Peking.<sup>19</sup>

All the events, sieges, retirements, and countermoves of the two forces, prior to and after the Yang-Ho valley are expertly described in Henry Martin's work. This analysis of the Yang-Ho battle is intended to describe how the Mongol leadership applied tactical reconnaissance, brilliant use of terrain, and superb combat decisionmaking, to defeat a force three times their size.

Map Two shows the area surrounding the Yang-Ho valley. The Yang-Ho river serves as the confluence for seven rivers that flow from the moun-



MAP TWO

THE YANG-TO VALLEY

tains that protect Peking on the west and northwest. Along these mountains is the Great Wall of China. The Wall served its purpose during this particular invasion of the Mongols, in that it forced them to use the valleys which led to the defended gates scattered along its length. Prior to the battle, it was toward one of these gates that Genghis Khan was headed.<sup>20</sup> Almost nine months earlier the Chin had sent a force into the valley to try and defeat the steppe warriors before they could reach the pass which the gate defended. The Chin logic must have been that if they could not win, they could at least delay the Mongols so that preparation of the defense works at Chu-yung Kuan (the gate through the Wall protecting the pass) could be finished without interruption.

The main avenue of approach through the Yang-Ho valley is a road running down the center of the valley with varying degrees of maneuver space to each side. In the northwest the valley is roughly fifteen miles across, narrowing to about seven near the center, then opening again to about fifteen miles in the south. Here the valley swings to the east toward the Chu-yung Kuan. Today a large lake formed by a dam blocks this eastward swing. The Chin did not enjoy this natural defensive anchor in 1213. Heading back up the valley (to the northwest) from this lake there are three towns of significance: Huai-lai, Hsuan-Hua, and Ching-Chia-K'ou. Each of these towns are separated by roughly twenty miles. Genghis Khan destroyed one of these towns, which in 1213 was called Te-hsing Chou. Today that town must be Hsuan-Hua since Chang-Chia-K'ou (to the north) offers

no strategic or tactical value in the defense of the Yang-Hu valley. Hsuan-Hua, however, sits directly astride the avenue of approach. Huai-Lai (roughly twenty miles southeast of Hsuan-Hua) is where Martin says the battle of the Yang-Ho occurred. Since the Chin general apparently watched the destruction of Hsuan-Hua, he must have done so from any one of the small hills or the ridges which separate the two towns. Hsuan-Hua is also the only obvious walled town in the valley. Therefore, it is here that Genghis must have had to conduct the siege.

After the siege was complete, Genghis moved southeast, toward Huai-Lai, making for the Chu-Yung Kuan gate, 50 miles away.<sup>21</sup> The defending Chin army made their stand in the southern part of the Yang-Ho valley. A very predominant ridgeline to the west of Huai-Lai must have been the anchor for the left wing of the Chin army. This ridgeline dominates the entire approach to Huai-Lai, if the enemy force advances along the west bank of the Yang-Ho river. To the east of Huai-Lai a very formidable ridgeline drops from a mile above the valley floor to about 4,000 feet just to the east of the town. The Chin general must have controlled the single mountain road which passes just west of this ridge. If he did not control it all, he must have sent an unknown size force up to the high ground to defend at least a portion of it. This road led directly into his flank and rear.

In the west, however, it would not have been so easy. Numerous roads running through the many draws and smaller valleys of the dominating mountains to the west of Huai-Lai must have been very difficult to control. He must have detached another force to control the primary road which also, like the one in the east, penetrated his rear. His primary combat power, of less than 100,000, but probably not greater than 60,000, must have been concentrated on the relatively narrow gap of only fifteen miles across the Yang-Ho valley. Genghis must have been impressed with the size of the Chin force since "on arriving before the enemy, Chingis Khan perceived that the whole army of the Chin was present."<sup>22</sup>

Genghis arrived at the battlefield with approximately 34,000 warriors.<sup>23</sup> Whether the Chin were reciprocally impressed with the size of the Mongol force is unknown. It can be conjectured that the Chin were more inclined to defend rather than attack though. Facts are sparse to support this conjecture. The details Martin gives do, however, illuminate the probable flow of the battle.

Understanding that the Yang-Ho valley battle is separated by a decade of war and hundreds of large and small battles on the steppe and the first two invasions of China, the significance of the battle, as an example of evolving Mongol tactics, is not lost. The Taijiut battle, on different terrain, against a different enemy with a different army was won by an audacious and brutal charge of heavy cavalry into a force three times the

size of the Mongol Army. In the Yang-Ho valley the general conditions were not totally dissimilar. The smaller Mongol force met a much larger enemy force head-on in generally open terrain. Why didn't Genghis charge again?

He did not charge because he knew the Chin mentality, tactics, and disposition and he knew all these things before he left the siege of Hsuan-Hua. While he was investing Hsuan-Hua, his spies had infiltrated the Chin army defending near Huai-Lai and his intelligence staff officers, using scouts and arrow-messengers had learned every detail of the terrain, position of enemy forces, defense works, and flank and rear approaches into the Chin army. The battlefield was only thirty miles from Genghis's siegeworks.

Once Genghis completed his operational briefing for his four division commanders, his attack orders probably directed the following actions. One division would move to the east up a very long tributary valley of the Yang-Ho to the high ground, twenty-five miles to the northeast. This division, of roughly ten regiments, would then swing around the mountain and head southwest to strike the Chin in the flank. From the area that this swing took place, there are (today) three draws that lead down into the Yang-Ho valley. The division commander probably split his force into roughly three groups to use these draws to descend upon the Chin.

The western enveloping division had a much longer route. This division probably marched due southwest between two mountain ranges for at

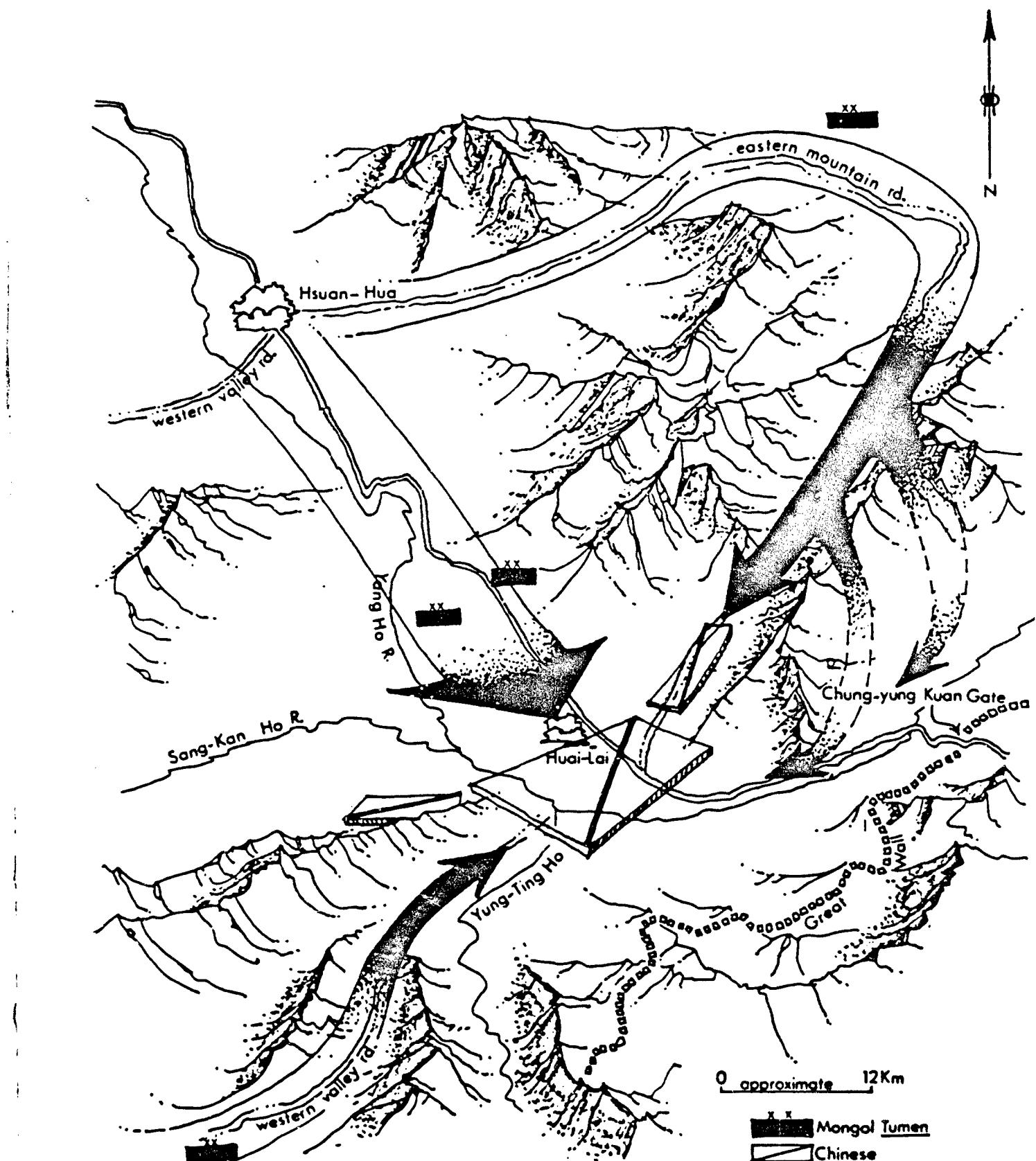
least thirty or forty miles. They then had to travel another twenty miles due south to reach the valley that led behind the very dominant ridge upon which the Chin most probably anchored their west (left) wing. It was another twenty miles back toward the Yang-Ho before the Mongol division would reach maneuverable ground. From there they could strike the Chin rear and disrupt the flank.

The center two divisions would be a demonstration force. They would press directly on the Chin center and keep the enemy's attention while the enveloping divisions worked their way around to the flanks and rear.

Command and control of this Army level double envelopment must have been a tremendous task. If all the parts of this maneuver were not synchronized, the separate divisions assuredly risked defeat in detail by the Chin. The mountains and valleys surrounding the Yang-Ho denied the use of tactical control signals by Genghis. The scouts and arrow-messengers, carrying reports of progress and problems, must have been run ragged, especially the horses. The demonstration divisions, moving south down the Yang-Ho, could not press to hard lest the Chin retire too early. If they did, the enveloping Mongol divisions would cascade out of the high ground in front of, not behind, the Chin main force. The enveloping divisions must not press to fast either. The Chin, while not as expert at handling troops as the Mongols, were not fools either. They had seen their armies cut to ribbons by the flanking maneuvers of the Mongols many times before.

If the enveloping divisions contacted the Chin cavalry screening the flank approaches too soon, the Chin would detect the trap and disengage, falling back rapidly over the twenty miles to the more easily defensible terrain of the Chu-Yung Kuan. Or the Chin could maneuver a force to block the exits from the intruding draws and cause the enveloping wings to be bottled up and have to fight their way out.

With these orders and precautions well understood, the Mongol warriors set out to make the battle of the Yang-Ho valley history. Whether Genghis launched his enveloping divisions early is not known. It is highly probable that he did, since their difficult routes required more time to transverse than the easy avenue the demonstration divisions had down the relatively flat Yang-Ho valley. The mounted cavalry of the demonstration divisions probably came within bow range of the Chin defenders within an hour. While they pressed, ever so carefully, the Chin center, down came the unstoppable enveloping divisions, carried by the force of gravity and their ruthless desire to destroy the Chin (Map Three). The scene of absolute mayhem and destruction in the Chin ranks must have been incredible. Deceived to the front, surprised from both flanks and the rear, the Chin army of 80,000 was annihilated. Those that fled were pursued for twenty miles to the pass at Chu-Yung Kuan. The Chin army "was so completely defeated that the bodies of the slain strewed the field of battle."<sup>24</sup>



### MAP THREE

## FLANKING THE CHINESE

The Chin were reduced to a last stand defense at the Chu-Yung Kuan. Their preparations there were not a lost effort. The gate had been reinforced, strengthened by trenches and other works. For an area of approximately thirty miles around the pass, the countryside had been seeded with caltrops.<sup>25</sup> This formidable defense forced the Mongols to find another route through the wall to the fertile plains of coastal China.

The battle of the Yang-Ho valley serves to demonstrate that while a frontal assault was definitely possible for the Mongols, they realized the stupidity of such a move. Instead they used a maneuver which struck the enemy at his weakest point, using the incredible shock affect of Mongol cavalry. With two divisions of cavalry knifing into the main body of a 80,000 man Chinese force, coupled with the cooperation of the heavy cavalry of the demonstration divisions, resulting in a catastrophic defeat of a Chin army, assuredly demonstrates that the Mongols did not avoid combat at close quarters.

Throughout the remainder of the Chinese campaigns, the Mongols demonstrated a fierceness and fighting quality which made them the most feared foe the Chin ever met or would meet. Even before the Chinese campaigns were over, Genghis knew his steppe warriors' superb training, unrivaled discipline, and natural ferocity would face another test. Events beyond his control forced Genghis to look toward the west and the Empire of Persia.

## PART IV

### BATTLE OF THE GHORA TARAP (HORSE'S LEAP)

The Shah's troops attacked to the sound of loud trumpet-blasts and the ear-racking clash of cymbals. The Mongols, with savage cries, flung themselves upon the foe, their manoeuvres being extraordinarily quick, and incomprehensible to their adversaries. The divisions were wholly dependent for their guidance upon little banners and field-insignia of various colours and shapes. They attacked, wheeled, scattered, and re-collected, changing the type of onslaught again and again before Mohammed's men could grasp their intention. So fierce was their pressure upon the enemy center that the Shah was himself in danger of capture, from which he was <sup>26</sup>only saved by a fierce counter-attack made by his son Jeial ed-Din.

This first major battle with the Persians ended in a draw. Fought in the Fergana Valley (north of present day Afghanistan) in the winter of 1218, the actual battle is insignificant compared to movement of the Mongols over the Pamir and Thian Shan mountains, reaching two and a half miles above the steppes of Asia. The Mongol army, of somewhere between 25 and 30,000 warriors, endured incredible misery in the winter crossing, only to emerge into Khwarizim to face immediately the Shah's army which outnumbered them by about four to one. The mission of this miserable, exhausted force was to reconnoiter a route through the mountains so that Genghis could move to crush two rebellious tribes of western Asia. That this scouting force could fight to the draw a superior force of the Shah's religiously fanatical warriors is remarkable in itself. Moreover, from this inconclusive initial engagement, the Shah deduced very rapidly his fateful strategy to check the Mongol. Rather than prepare to destroy the Mongol in the open,

he too, was reduced, for the most part, to a positional defense of his empire. As did the Chinese before him, he was to rapidly learn that the Mongol's expertise in siege warfare made this defense foolish.

Strategically, the Persian decision to defend everywhere allowed the Mongol to defeat them in detail almost everywhere. Not all the Persian defeats came at the hands of the Mongol artillery and infantry assaults on fortified cities. Interestingly, the first major battle in the Fergana Valley and the last one at the Ghora Tarap were both battles of maneuver. Before an analysis of the Battle of the Ghora Tarap begins, a word concerning Genghis's interests in Persia is required.

Scholars generally agree that Genghis really did not want war with the Shah. The expeditions of Chepe and Juji in 1218 were directed not against the Shah, but against two rebellious tribes, the Naiman and Merkits. When the force under Juji (pursuing the Merkit) met the Shah, he tried to convince the Shah that the Khan did not want war. When they met, however, Juji was unaware that the Shah had already ordered the execution of Mongol envoys and a follow-on Mongol ambassador seeking peace.

When Genghis learned of these insidious acts of bad faith, he committed himself to destroying the Shah and his empire. The Shah then sealed his fate before the first battle took place. So sure and overconfident was the Shah, driven by his successes against his own neighbors and his fa-

tical devotion to Allah, that he allowed his spiritual allegiance to overcome a realistic appraisal of the situation. Rather than trying to develop the situation, with room to maneuver both politically and militarily, the Shah confronted Juji and lost everything by resorting to insults, based on a blind ignorance of his enemy. C. C. Walker provides a valuable narrative of their confrontation.

Juji informed the Sultan that he was acting under the orders of Jenghiz Khan to avoid war . . . but if he wanted a fight he could have it. Mohammed, whose army was superior in numbers, refused to listen. "If Jenghiz Khan has given thee orders not to attack me, yet Allah commands me to attack thee, and I hope to deserve His good-will by destroying you pagans." The rule also holds in Central Asia, apparently, that those whom the gods wish to destroy they first drive mad.<sup>27</sup>

Genghis's objective in Persia, then, was the annihilation of the Shah and all the forces he commanded. Territory and wealth were secondary. So dedicated was Genghis to the singular objective of destroying the Shah and his principal subordinates (including the Shah's son Jelaladin), that he spent six years in the effort. Throughout the Persian campaign, the Mongols specialized in siege warfare because of the Persian decision to defend their cities and avoid open field combat. There were engagements in the open but this analysis of Mongol tactics passes by the entire Persian campaign to the last battle fought in Persia. The Battle of Ghora Tarap is selected for several reasons.

Ghora Tarap marked the end of significant resistance to the Mongols in and around the Khwarezim empire. Here, as at the Fernaga Valley, the key

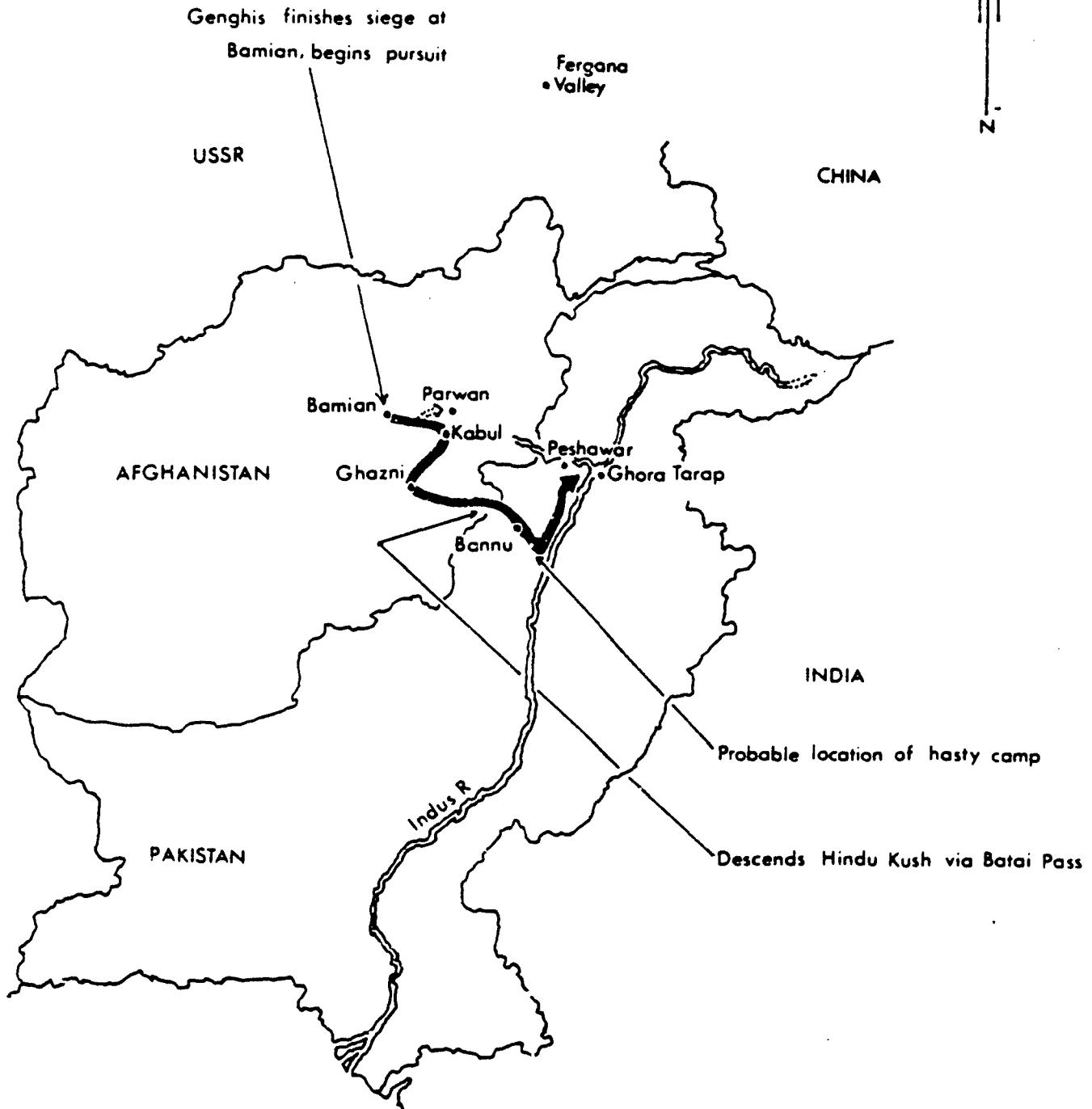
Persian warrior was the Shah's son, Jelaladin. He saved his father in the Fergana Valley but lost the last vestige of control of Persian combat power at the Ghora Tarap. Jelaldin, with his father dead and his forces destroyed, was forced into temporary exile and Persian power ended. The following analysis of events leading to and the conduct of the Battle of the Ghora Tarap will demonstrate not only the Khan's devotion to the primary objective of destroying the leadership of the Persians, but several other related points.

Open field tactics used in Persia (1218-1225), were not drastically different from Mongol tactical doctrine adopted at the beginning of the thirteenth century. What was different about Ghora Tarap was the conduct of a night forced march, establishment of an encircling force in the dark, remarkable use of terrain thought to be impassable, and the use of the reserve force to capitalize on success.

Ghora Tarap was the culmination of a 400 mile pursuit operation, mounted by Genghis, to kill the last figurehead of Persian power. Vengeance was also involved. Jelalidin had previously defeated a Mongol force under Kutuku at Parwan. When Genghis learned of the defeat he knew Jelaladin required his immediate attention. It was during the pursuit of Jelaladin that Genghis stopped at the Parwan battlefield and conducted a post-operation critique of Kutuku's and his generals' actions in the battle. Thus did Genghis demonstrate the value of learning from one's mistakes, even if an operation had to be temporarily halted to review the lessons learned.

At Ghora Tarap the Mongols would learn another very valuable lesson. At this battle, the only one in Persia, the Mongols outnumbered the Persians, but the Mongols almost lost. They were able to win though, by use of terrain, continuous evaluation of the enemy's moves, and a bold attack by the reserve. This is significant because here at Ghora Tarap Genghis did not use his reserve to reinforce failure, but to reinforce success. The primary lesson learned by the Mongols, though, must have been that when the tables were reversed and the Mongols outnumbered their foe, the advantages of Mongol superior organization, command and control, and motivation did not spell automatic success. Ghora Tarap must have been a very sobering experience for all Mongol leadership in the Persian campaign.

The 400 mile pursuit of Jelaladin traversed some very rough terrain. Map Four depicts the entire route and only hints at the difficulty of the terrain. Passage into the mountains protecting Kabul and then southeast through the mountains protecting the Indus Valley was not easy, especially for the larger Mongol Army of 50-70,000 warriors. Jelaladin's smaller force of only 30,000 moved much faster, but not fast enough. During the pursuit, Genghis demolished a thousand man rearguard force, probably somewhere southeast of the Batai Pass. Deducting this thousand from the total force of Jelaladin leaves but about 29,000 Persians and their allies. Assuming a rearguard tumen remained behind the Mongol Army, a figure of 40-60,000 Mongol warriors in the main body might be appropriate. A review of Walker's analysis of available Mongol forces is required before a reconstruction of the battle is given.



MAP FOUR  
PURSUIT OF JELALADIN

Walker believes that "we must make great deductions from 50-70,000 at the finish owing to the terrific speed of the pursuit, and the nature of the country he traversed."<sup>28</sup> He ascribes these deductions to the winter marching conditions at 7-9,000 feet in rugged mountains and, significantly, that the battle would have lasted only an hour if Genghis really possessed numerical superiority. Walker, relying on d'Ohsson's estimate that the battle raged all morning, argues that the Mongols really did not outnumber the Persians. A terrain analysis and knowledge of the discipline of Mongol warriors in winter combat possibly proves d'Ohsson correct. Walker says that

. . . it is inconceivable that Jenghiz could have taken such an enormous force from Ghazni to the Indus, in December, in fifteen less days than it took Jelaludin, without over half his cavalry dropping out with foundered horses<sup>29</sup> and exhausted men in the narrow passes and defiles of the route.

Though it was arduous going, it is certainly not inconceivable when one remembers the recent experiences of these incredibly hardy warriors and horses. They had to conduct a similar passage to enter the Khwarezim empire from the steppes of Asia. They were, therefore, not unfamiliar with the hazards of mountain marching. The speed of the march, exhausting as it must have been, was routine, not the exception, for the steppe warrior. Additionally, the majority of these warriors had not been directly involved in the exhausting siege operations at Bamian which preceded the pursuit. Finally, Walker's thesis assumes that Genghis would have, in the passion of the pursuit, divorced himself from the single attribute which made his army

effective. Would Genghis have attacked the last vestige of Persian leadership with his own force strung out, lacking all cohesive organization and with his commanders having lost control of "over half his cavalry?" Assuredly all this is possible, but not very probable for several reasons.

Genghis's intelligence network hardly ever failed him. His spies and informants had provided detailed intelligence of the Persian empire before he ever decided to fight them. This network must have provided him with up-to-date data on routes and road conditions throughout the area of operations. Undoubtedly the General Staff Intelligence officers knew as much about the terrain as the Persians did. His own army scouts, free to roam the Indus valley after the Khan had demolished the Persian rearguard, must have provided the Khan with as close to realtime intelligence (for those days) as possible, on exactly where Jelaladin was, his strength, and movement. Ralph Fox says that "when the scouts brought Chingis the news that Jelal [adin] was encamped by the Indus on the west side and collecting boats for a crossing at dawn, he ordered a forced march through the night . . ."<sup>30</sup>

Therefore, Genghis knew where Jelaladin was, how far and long it would take to reach him, and his intention. Undoubtedly, the scouts reported this information to the Khan at a hasty camp where the Kurram river flows into the Indus, about one hundred miles south of the Ghora Tarap. This area for the camp is chosen because Genghis's scouts would have gone both

north and south along the Indus in search of Jelaladin since the Khan probatly did not initially know which way the Shah's son had gone. Even if some regiments had fallen out of the march through the mountains, they would have closed up with the main body during this temporary halt. From this camp the forced march to the north, during the night, of about one hundred miles, would have covered the distance in about five hours. Genghis could easily have made this forced march along the generally unformidable Indus river valley to the Ghora Tarap with plenty of time to dispose his forces and surround Jelaladin prior to dawn.

The Battle of the Ghora Tarap then, began on a crisp, clear morning in December of 1221. Historians cannot pinpoint the exact date.<sup>31</sup> Neither can they agree on where the actual battlefield was.\* Jelaladin, however, did have his back to the river with his forces facing west. He enjoyed one tactical advantage though. The rising sun was directly in the eyes of the attacking Mongols. Whether he really wanted to be where he was or not is open to conjecture. Obviously he would much rather have been on the east side of the Indus with this natural obstacle between himself and the pursuing Mongols. The Indus must have been a rather formidable river crossing operation since Jelaladin elected to defend on the west bank, at the mercy of the stronger Mongol force, rather than force a night river

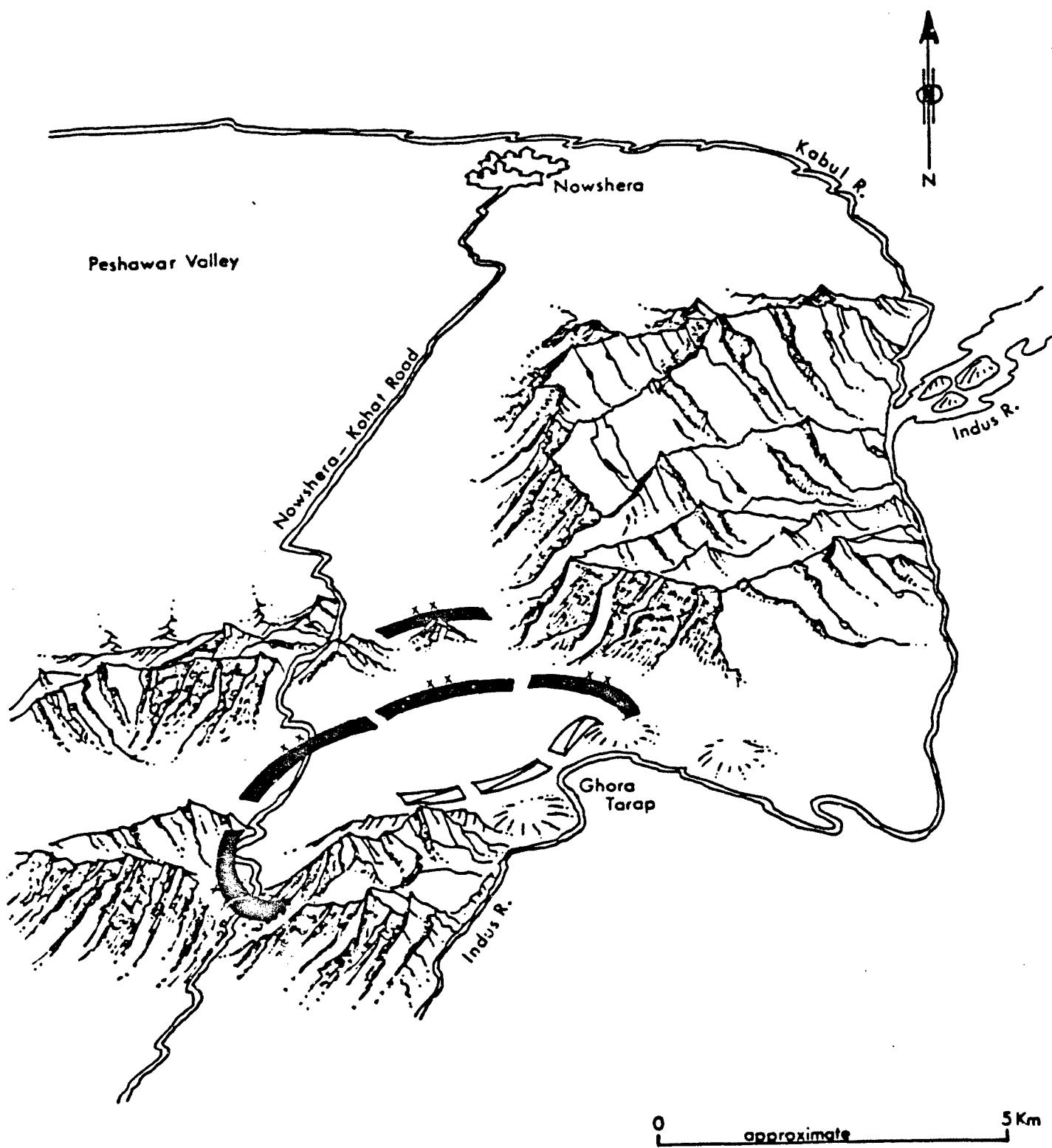
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\*At Appendix Two is an analysis of the conflicting date on the location of this battle and conclusions leading to its being pinpointed at Ghora Tarap.

crossing. His decision to burn the boats in order to induce his troops to fight to the death may have been the correct one for that moment but not the correct one to insure survivability of the force. Knowing no escape was possible the Persian soldiers, however, did give the Mongols the most terrific fight they had ever encountered in the entire campaign. The Persian conduct of the Battle of the Ghora Tarap was probably even more fierce than the fight which they won against the Mongol general Kutuku, at Perwan.

Map Five shows the overall disposition of forces at the Ghora Tarap on the morning of the battle. The Persians defended with their strongest division on the right as a matter of doctrine. The Emir Melik commanded here and would play a significant role in the early fighting. The weaker divisions were arranged from the center to the left, defending the perimeter from a series of almost razorback hills which anchored the left flank. Jelaladin knew the Mongols would have a very difficult time forcing the defenders off this high ground so he spread the forces there very thin. Jelaladin positioned himself with his personal bodyguard behind the center. Thus arrayed, they awaited the storm.

The Mongols advanced in the dawn, putting pressure all along his front. Of the roughly five tumens that Genghis commanded he encircled the Persians with four, keeping his reserve tumen under his control. An additional force of at least four or five regiments performed rear and flank security on the opposite side of the mountains. Genghis, ever seeking the



MAP FIVE

BATTLE OF THE GHORA TARAP  
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Mongol Tumen

Persians

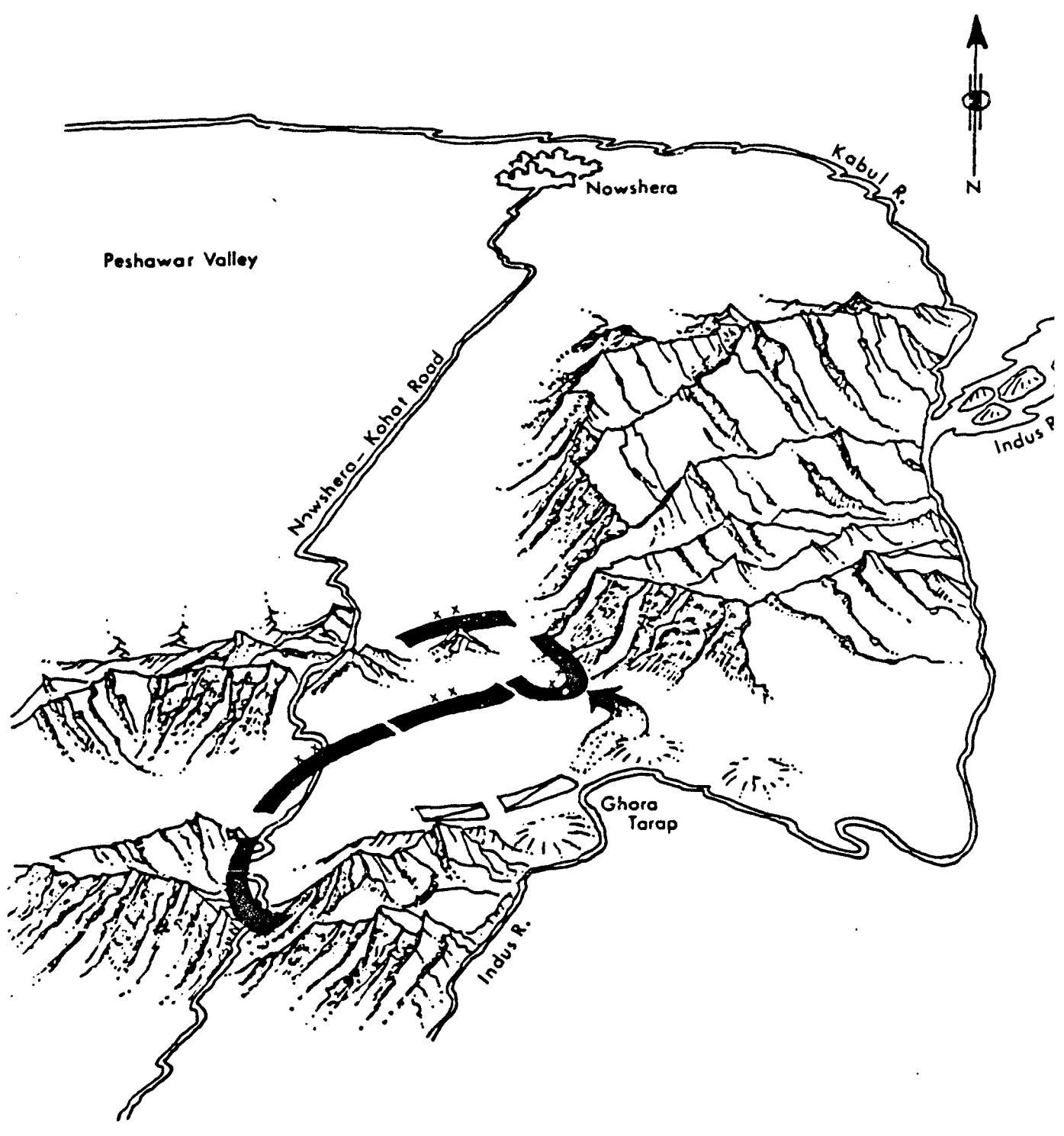
advantage, had probably issued orders to his intelligence staff before dawn to send out scouts to find a way around the Persians. These scouts undoubtedly had worked their way into the high ground on the Mongol right flank even before the attack started. There was no way around the Persians on the left, as they were tied into the river there. Genghis probably knew the Persians doctrinally placed their best combat units on the right and it was they who could not be easily penetrated.<sup>32</sup> He realized that in order to influence the battle he would have to move this Persian wing somehow to deny them the advantage of the river and high ground they possessed.

While the scouts searched the mountains for a route and the center and right wings of the Mongols kept the pressure on the Persians to their front, Genghis analyzed the Persian array, weighed courses of action, and began to formulate the plan which would unhinge the Persian right wing. Jelaladin, however, was not waiting for the Khan to decide.

As the forces in the center of the valley exchanged insignificant charges at each other, the Persians began to move parts of the force on the left wing off the mountain to reinforce the right wing. Jelaladin, seeing the Mongol divisions had been stopped by the mountains, reduced his defense on the left to an economy of force mission in order to add to his more reliable combat power on the right. Why did he change his defense, when he knew the Mongols outnumbered him and were masters of maneuver warfare? Undoubtedly he placed too much value on hindering terrain on his left, and

was gambling that a combined stroke into the Mongol center and left flank with his cavalry would split the Mongols and allow the Persians to meet smaller combat forces in the open and defeat them in detail.

Jelaladin launched the Emir Melik at the Mongol left (Map Six) and succeeded in driving them back. Simultaneously he reinforced the Emir with combat forces from his left flank division. The Emir pushed the Mongols back across the valley floor probably causing heavy casualties among the steppe warriors. The duration of this fight must have been several hours. The Mongols probably delayed across the valley floor unable to stand fast against the impetus of the Emir Melik's cavalry. It is not inconceivable that Genghis's initial plan might have been to deceive the Persians by intentionally placing an understrength tumen on the Persian right, thereby enticing Jelaladin to strike at this weak point. Perhaps this Mongol force had orders to delay, thereby drawing Jelaladin's best division away from both the main body and their natural protection afforded by the river. Barthold lends credence to this possibility when he says that "Chingiz Khan had already turned in flight."<sup>33</sup> This turning in flight could very well be the left wing tumen intentionally delaying in front of the Persian cavalry, deceiving them into false hope of success. Eventually this force (possibly the baited gambit) reached a defensible area on the northern fringe of the valley with their right anchored against their sister tumen, their left against the ridgelines of the mountains there.



MAP SIX

EMIR MELIK FORCES THE MONGOL LEFT  
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Sometime during this action Jelaladin decided to strike the center of the Khan's army with his personal bodyguard of cavalry. He probably made this decision when he saw the apparent success of the Emir Melik reach the other side of the valley. While Jelaladin was evaluating the probability of success of his next move, the Khan had already moved forces to seal the Persians' fate. Several hours earlier Genghis had acted on the results of the route reconnaissance by the scouts who had surveyed the mountains protecting the Persian left. As Jelaladin marshalled his bodyguard and laid out his plan, a Mongol tumen was inching its way through the defiles of the protective mountains, along routes discovered by the scouts. Probably not long after Jelaladin ordered the charge into the Mongol center, this enveloping tumen reached the exits from the mountains.

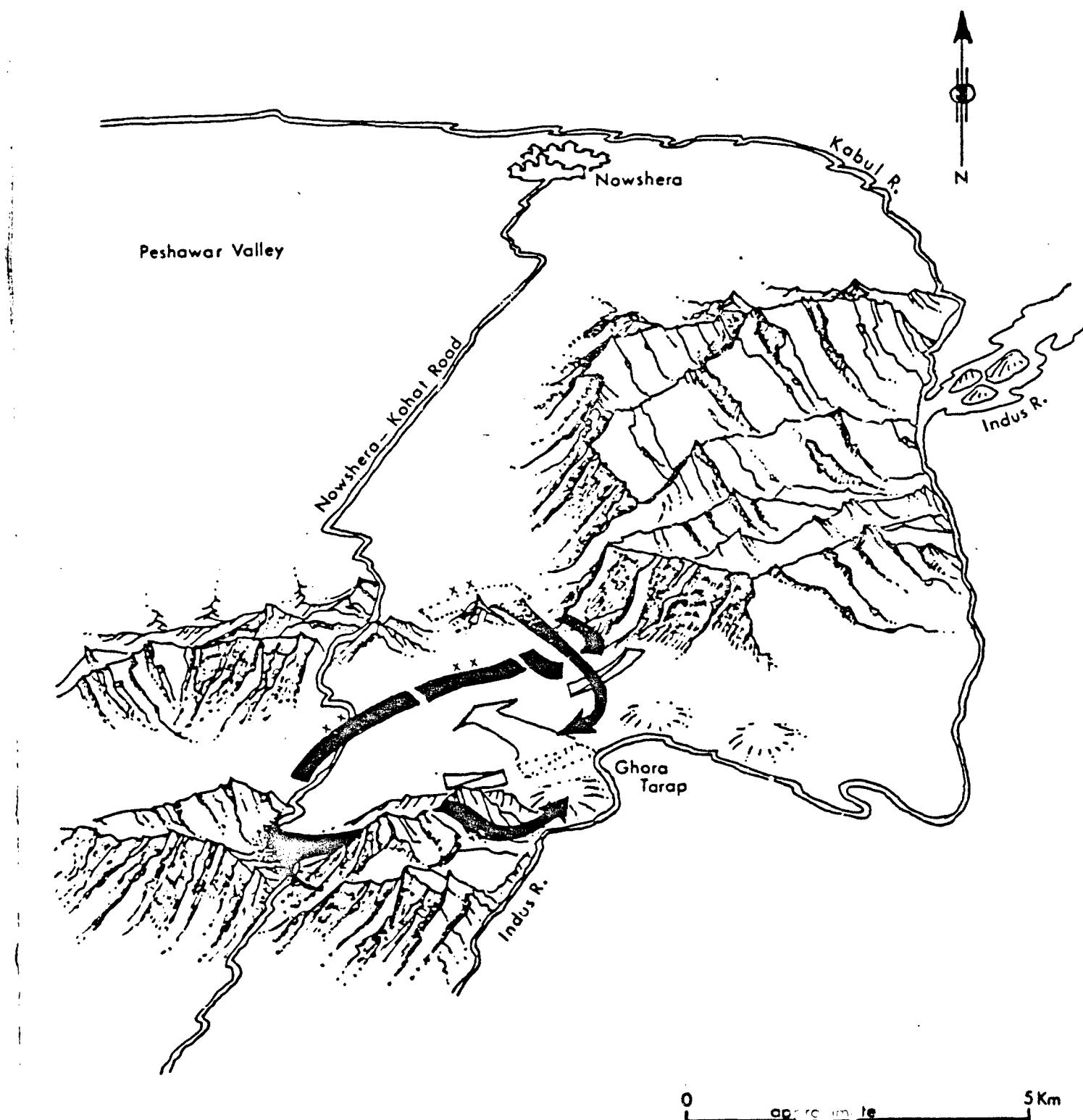
The timing of the enveloping tumen in concert with main body actions was probably the key to Genghis's plan. The Khan could see the Persian forces defending the mountain and knew they had been weakened by Jelaladin in order to reinforce the Emir Melik. Therefore, once he saw the lead elements of this enveloping division appear behind the Persians, he knew the moment of decision was at hand.

The Khan had kept control of his elite bodyguard tumen somewhere behind the center forces. With the Emir Melik pressing his left, and Jelaladin's bodyguard doing an admirable job of chewing away his center, the Khan's decision was where to apply the decisive stroke. Should he

strike through the center tumen, directly into Jelaladin's bodyguard, or to the left into Emir Melik's division apparently threatening his own flank? He struck the left. The fact that he struck there is significant. The morning's fight against a smaller Persian force had not gone entirely well for the Mongols. If the withdrawal of the Mongol left wing tumen was not a deception, then that tumen was probably very badly mauled by this time. The length of time it took the enveloping tumen to breach the mountains had caused many casualties in the Mongol center, due to Jelaladin's charge. Mongol motivation may have been severely pressed with the battle now having lasted several hours. Accustomed to quick victories in open field fighting this strenuous fight might have been adversely affecting Mongol leadership. There may have been thoughts of breaking off the action.

Genghis's decision to commit his reserve to the left, at the critical time, proved decisive (Map Seven). He struck the left because he knew he risked a flank charge by the Emir Melik if he broke through Jelaladin in the center and could not turn to face him fast enough. He also knew that by striking left he could not only disrupt the Emir Melik's forces, now exhausted by the many hours of fighting with no relief, but could also roll up Jelaladin's flank and at the same time smash him into the enveloping tumen descending from the mountains to the west.

By an unknown signal, probably drums, the Khan launched his enveloping reserve through the Emir Melik, killing and maiming as he went, then swung



MAP SEVEN

THE DOUBLE ENVELOPMENT

122

Mongol Tumen

Persians

around to the right and smashed into Jelaladin's bodyguard from the flank. Opposite him, the other tumen knifed into the Persian left and caused absolute chaos. So destructive was this terrible attack that Jelaladin managed to withdraw to the bank of the Indus with only 700 Persians around him.<sup>34</sup> After reaching the bank, seeing that all was lost, Jelaladin leaped into the Indus and swam the river on his horse, reaching the safety of the other side only by the chivalry of the Khan. Apparently, feeling the destruction of the Persian army sufficient and amazed at Jelaladin's personal courage in leaping into the river, the Khan ordered his superb archers not to shoot the fleeing figure.<sup>35</sup>

So ended the Battle of Ghora Tarap, or Horse's Leap. Genghis had destroyed the remnants of a once powerful army in a single but not easy stroke. He realized though, that Jelaladin had to be tracked down eventually. He dispatched two tumens to find the Shah's son, but this force failed to capture him. The heat and humidity of the Indian subcontinent proved too much for the steppe warriors and they were forced to withdraw. Even these brutally efficient warriors had their weaknesses.

It would be another twenty years until the Mongols encountered a force which would earn their rarely given praise. The fighting spirit and tenacity of the Persians at the Ghora Tarap would be not dissimilar from the courage and skill displayed by an emerging class of chivalrous warrior of Europe.

## PART V

### BATTLE OF THE SAJO RIVER

Our armies ought to be marshaled after the order of the Tartars, and under the same rigorous laws of war. The field of battle ought to be chosen, if possible, in a plain where everything is visible on all sides. The army should by no means be drawn up in one body, but in many divisions. Scouts ought to be sent out on every side. Our generals ought to keep their troops day and night on the alert, and always armed ready for battle; as the Tartars are always vigilant as devils.<sup>36</sup>

Father Plano Carpini, reporting to the monarchies of Europe in his after-action report on Mongol European operations in 1238-1241, understood exactly what made the Mongols so efficient and the Europeans so ill-equipped to deal with them. The Europeans would have been better able to handle the Mongols if such an astute observer had prepared a similar report after Subedei's great reconnaissance in force mission through Europe in the winter of 1221-1222. During the ensuing twenty years the Europeans did not reflect enough on why the Mongol general could run rampant across their homeland creating havoc and chaos with an insignificant force of steppe cavalry. The Europeans would relearn the lessons of 1222 with crushing finality in 1238. The Russians would also feel the terrible weight of the steppe warrior and be unable to throw off the heavy Mongol yoke for over two hundred years.

The lessons of 1222 were not lost on the Mongols however. Characteristically, Chepei and Subedei arranged for many spies and informants

to be planted among the Europeans during their great raid of 1222. In one case, Venetian merchants were recruited by them to gain intelligence on European matters for the next twenty years.<sup>37</sup> This data proved invaluable to Mongol operational planning for the second European campaign of 1237-1242. Before the campaign was ever launched, the Mongols knew all about Europe. They knew the strategic invasion routes able to handle large armies, who in Europe was strong, who was weak, and where the Mongols had to strike to deny enemy influence on the plan. Significantly, just as in all the campaigns of the Great Khan, Ogedei, Genghis's son, insured that the pre-operations intelligence gathering in support of the combat plan for Europe in 1237 was as detailed as it could possible be. Ogedei, now the Supreme Khan, did not forget any of the lessons his father taught him. Throughout the entire five year campaign the Mongol leadership faithfully employed Mongol strategic, operational, and tactical doctrine, including several remarkable innovations, to insure success.

The European campaign was marked by brilliant maneuver warfare, siege operations, large and small river crossing operations, and routine deception operations. Psychological deception was employed also. In preparation for operations in the Hungarian theater, the Mongols reenacted the psychological deception conducted in Persia. The key players in the deception in Europe, as in Persia, were again the Turks. "By a cunningly contrived letter addressed to the Hungarian court, but written in a script that only the Kipchak Turks could read, the Mongols managed to breed suspicion between the two."<sup>38</sup> The deception was intended to confuse the

Turks as to whose side the Hungarians were really on. Were the Hungarians playing ally with the Turks while truly in league with the Mongols, their common enemy? This deception worked. The Turks failed to support the Hungarians and abandoned their ally, thereby creating a split in the otherwise very powerful alliance. The Mongols were not slow to capitalize on the disharmony and crush both the Hungarians and the Turks. The movements of the Mongols in the European campaign of 1237-1242 to accomplish this task are classic examples of strategic maneuvers to achieve the operational objectives.

James Chambers provides an illuminating discussion of the strategic evolution of the European campaign. Chambers' brilliant treatment of the tumult spearheads into Europe, their flanking movements, economy of force missions, and rapid advances cannot be improved upon. This analysis will only review the culmination of a single deception mission in Hungary. This deception was the luring of the Hungarians away from the protection afforded them by the Danube river and the city of Pest. So convincing was the deception that the Hungarians thought the Mongols were withdrawing from the theater. King Bela followed the gambit force for six days, being drawn onto a battlefield of Mongol choosing.<sup>39</sup> Chambers provides a valuable word on the operation in that

as always the co-ordination of the Mongol armies was faultless, but the timing of the decisive engagements was astonishing. It can not be dismissed as coincidence and since the uncertainty of the enemy positions would have made pre-planning impossible, the only explanation seems to be the speed of the Mongol messengers and in particular the efficiency of their signalling system.<sup>40</sup>

The speed and coordination of the tumens were to be remarkable. On the approach march of Subedei to meet Bela's forces at Pest, the Mongol force of about 60,000 traveled 180 miles in just three days through deep snow.<sup>41</sup> After a couple months of demonstrating in front of Pest, the Mongols withdrew. In the spring, Bela's army, composed of Magyars, Croats, Germans, and French Templar Knights, 100,000 in all, were drawn then to the plains surrounding the small Hungarian town of Mohi and their eventual doom along the Sajo river. As at the Yang-Ho valley, the Ghora Tarap, and many other battlefields, the Mongol mastery in timing the decisive move, their swiftness of execution, and ferocity in combat would unhinge a nation's army and destroy it.

The Battle of the Sajo River is chosen for analysis for several reasons. There were several tactical innovations employed by the Mongols here and the Sajo River demonstrates again the Mongol supremacy in not only understanding the value of terrain but also their unmatched ability to apply maneuver warfare doctrine to the terrain's advantages and disadvantages. Secondarily, this review will correct a misrepresentation of how the battle occurred. In S. R. Turnbull's work there is a reproduction of a map from the Handatlas fer die Geschicchte des Mittlapters which grossly compacts the forces at the Sajo River and depicts an illogical arrangement of both space and time.<sup>42</sup> There is no confusion among scholars as to where and when this battle took place, however. The analysis that follows will illuminate and clarify the contradictions in the conduct of the battle.

In the lowground bounding the Sajo river there are marshy areas which were to prove significant in the coming battle. The marshes would be a hindrance to both forces and drive the Mongols to seek a route across the Sajo river and then around the marsh to find the Hungarian rear. As the account will show, it is entirely possible that the Hungarians placed too much value on the hindering affect of the marshes, believing them sufficient to protect the Hungarian right flank. It would prove to be an improper evaluation of terrain.

Analysis of the terrain by the Mongols was not incomplete, however. While the gambit force drew the Hungarians away from the Danube toward Mohi, Subedei, Mangku, and Batu personally rode across the proposed battlefield and probably engaged in lengthy discussions of where they would like to trap the Hungarians and on which side of the Sajo river the Mongols should establish their bivouac. The intelligence officers undoubtedly were sending valuable reconnaissance data on the Sajo itself, including bridges and fords, via the army scouts and arrow-messengers. During the generals' terrain ride they decided that a central fulcrum of the coming battle was to be the single stone bridge which crossed the Sajo river just east of Mohi. Since this was the only place that the heavier Hungarian cavalry could cross, the Mongols decided to draw the Hungarians to the heath that surrounded the bridge, give the bridge to the Hungarians, and thus complete the deception. With the bridge in Bela's hands they must have reasoned that he would defend the bridge and camp on the west side. Once secure there, Bela, now confident that he held the decisive terrain, would

continue the pursuit of the Mongols the next day (11 April 1241). The deception now moved into its second phase.

With all the Mongol host on the east side of the river, hidden in the thickets and vineyards of the high ground about ten miles away from the Sajo, the Mongols let the Hungarians secure the plains of Mohi.<sup>43</sup> Bela's scouts moved out along the banks and west side of the Sajo looking for the Mongols but failed in their mission. They would also fail to provide any early warning for the Hungarian army on Mongol maneuvers during the night of 10 April. Bela's main reconnaissance body of 1,000 cavalry returned from their reconnoiter and secured the west side of the bridge and settled for the night.

Secure in their own bivouac, Batu and Subedei completed their tactical plan for the annihilation of these Hungarians. Batu would be the anvil while Subedei, leading three tumens (of about 30,000), would be the hammer. Studying the fords of the Sajo, Subedei decided to make his night river crossing between the small villages of Girincs and Nagycsecs.<sup>44\*</sup> Sending out the engineers during the night, Subedei directed the construction of a hasty bridge across the Sajo over which he would move his hammer force to strike the Hungarian right. Batu would begin the fight by hitting the security forces on the Mohi bridge and drawing the Hungarians' attention to the east. Subedei would then cross and attack from the south,

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\*See endnote 44 for discussion of disputed crossing area.

rolling up the flank and encircling the Hungarians there. The Mongols would then surround the allied army and complete its destruction.

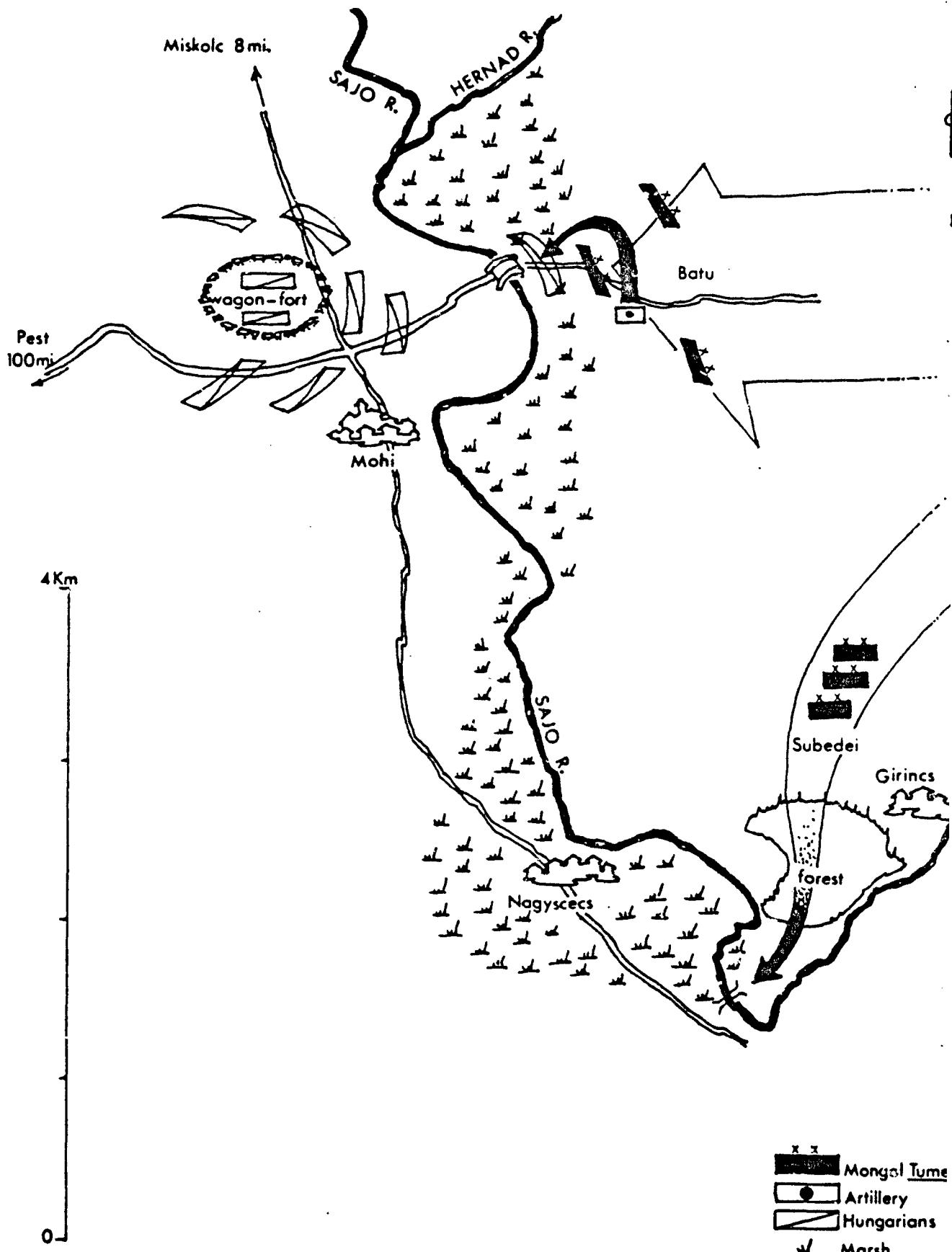
While these two Mongol generals finalized their plans, the Hungarians did nothing. Not enjoying a unity of effort as the Mongols did, King Bela had his hands full trying to keep the allies together. The Hungarian forces were led by the royalty of the court, various Bishops and Arch-bishops and Bela's brother, Koloman. They had decided to form a mobile fortress from the hundreds of wagons accompanying the army. Circling them and binding them together with chain and rope, the wagons became a stronghold to fall back into if the Mongols pushed them back. The size of this mobile fort must have been tremendous. If the Hungarian army (or better, the remnants of it) were to withdraw inside it, it had to have been several hundred meters wide, if not over 500 meters in diameter. Along with the wooden bastion the Hungarians pitched their tents on the heath, further degrading any ability to maneuver on the plain. Whether the entire army was inside the laager or not is not clear. The size of Hungarian host dictates that most of the army must have been outside the ring of wagons.

With his camp established, Bela soon received some valuable intelligence. Apparently a Russian deserter from the Mongol army entered the camp and told the Hungarians that the Mongols intended to cross the Sajo during the night.<sup>45</sup> For reasons unknown, Bela took no action. He possibly thought the deserter was lying and believed the information a deception. There was no explanation of his evaluation anywhere in my research.

The Mongols were not wasting the last few hours of daylight. From a hilltop less than a kilometer from the Mohi bridge, the general staff of Batu's army watched the placement of the Hungarian camp on the plains beyond (west) the Sajo river. The generals and their staff probably wargamed the next morning's fight while looking directly onto the battlefield, observing the fateful arrangements of the Hungarians in their camp. As night fell, the staff and commanders withdrew to their bivouac to finalize the plan.

As Bela's forces guarded the Mohi bridge with a thousand cavalry and the remainder of the army retired, the Mongols began to displace their forces. Subedei moved his three tumens toward the crossing site south of Mohi and Batu headed for the Mohi bridge. Map Eight shows the movement of the Mongols to attack the Hungarians, reaching their attack positions just before dawn. Batu was first to strike and initially was held up by the stubborn Hungarian defenders of the bridge. While his Mongol cavalry tried to chew away these defenders, Batu made a significant decision. Somewhere in the logistics train of his army were siege weapons. Scholars all agree that at a point in the fight at the Mohi bridge Batu brought up seven catapults to fire on the defenders.<sup>46</sup> This is a significant event in warfare of the Middle Ages.

It is so significant that Liddell Hart says "it is the first time in military history that fire is employed systematically to pave the way for the assault."<sup>47</sup> Since this particular comment does not bear directly on



MAP EIGHT  
INITIAL MOVES AT THE SAJO RIVER

Liddell Hart's arguments for mechanization of armies in 1927, it may very well be true. Chambers calls the use of the seven catapults, with fire advancing in front of Batu's assault troops, a "rolling barrage."<sup>48</sup> There are two other remarkable things about the employment of these catapults during the initial assault on the bridge.

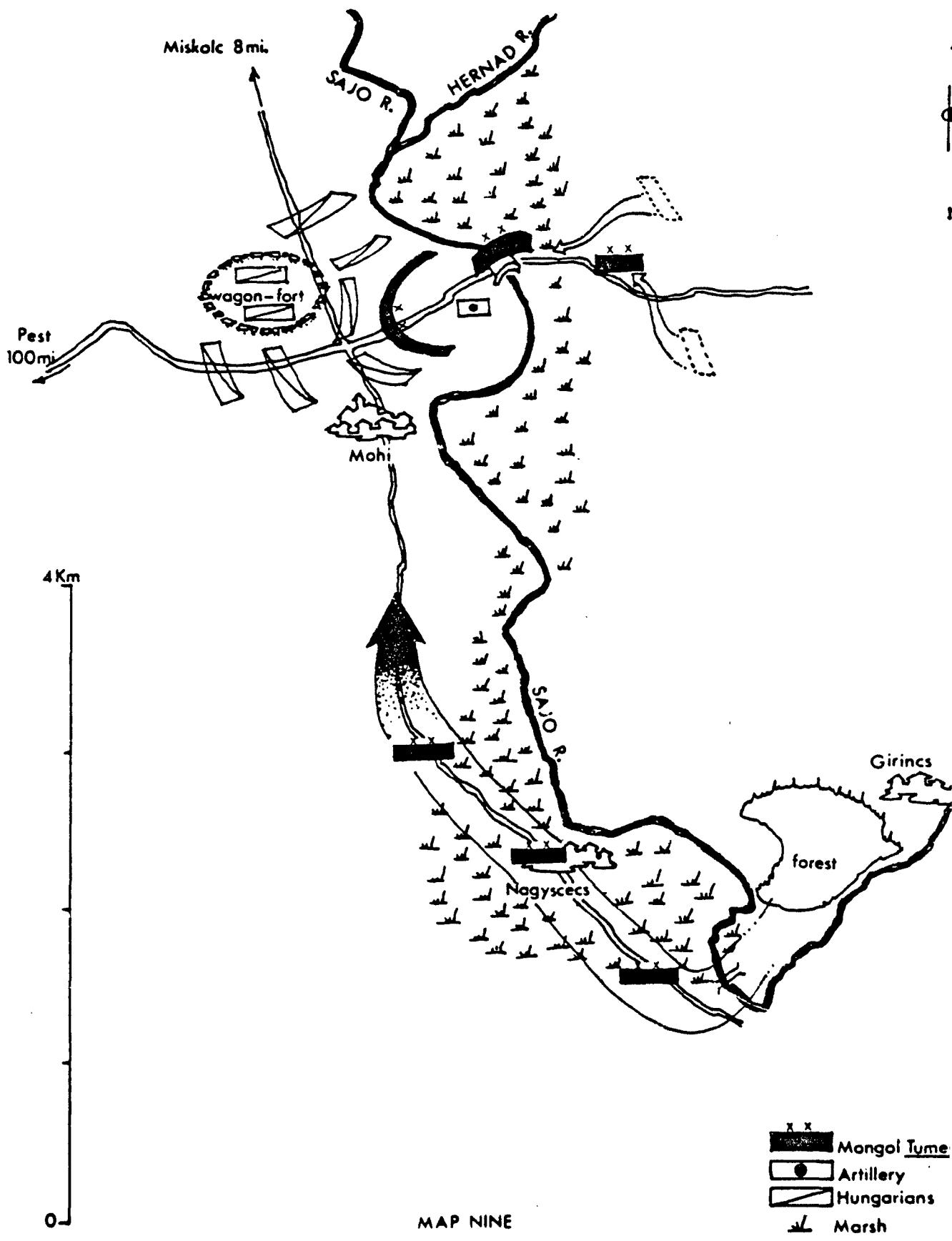
First, the Mongols apparently used not only exploding bombs in the fire support but also smoke rounds. Here, at an insignificant bridge in northeastern Hungary, is apparently the first use of smoke fired from indirect fire weapons in a battle, other than a siege, to mask the movement of assault troops and deny the enemy direct observation of the advance. Can this battle be the advent of combined arms, mobile warfare? If so, then the Battle of the Sajo River deserves a greater place in military history than it currently enjoys.

Second, when did it occur to Batu to employ his siege weapons in this fight? Did he plan their use from the start or when he realized that his cavalry could not force the Mohi bridge by themselves? The tenacity of the Hungarian cavalry and infantry defenders was tremendous and perhaps Batu clearly realized he needed something besides his cavalry to move them off the bridge. If he had decided to use his "artillery" before the fight, then this is a vivid demonstration of the Mongol leadership's appreciation of the higher conception of tactics, disallowed by Liddell Hart. If Batu decided to use the weapons after the forces in contact had been hammering away at each other for a few hours, then this decision at least demon-

strates that Mongol leadership did not have their thinking done for them in advance by military scientists, as claimed by Montross. Either way, the decision was brilliant.

While Batu was smashing the Hungarian defenders of the stone bridge at Mohi and enjoying considerable success, Subedei was not faring quite as well in his river crossing operation to the south (Map Nine). Here in Hungary the timing of the converging tumens was to prove as critical as it had been at the Yang-Ho valley and Ghora Tarap. The skills of the Mongol engineers must have been severely tasked during this night river crossing operation. The swift river and lack of visibility made the bridge construction go much slower than anticipated. The timing of the operation began to break down. Batu expected Subedei to be on the Hungarian rear very rapidly. When the hours after dawn passed and Subedei failed to appear, the Mongols began to be quite seriously mauled in the fighting around the Mohi bridge. Only Batu's brilliant use of "firepower saved them from being overwhelmed by the massed charges of the finest cavalry in Europe."<sup>49</sup>

Sometime around midmorning Subedei's hammer force arrived in the Hungarian rear. Caught now between two enveloping forces, the Hungarians made an orderly withdrawal into the wooden bastion of wagons. When Subedei joined Batu for a battle conference, their position was less than admirable. Batu spoke of breaking off the fight, having lost confidence in his steppe warriors' ability to storm the laager or check the Hungarians if they sallied out of their fortress. Subedei, ever confident, said that "If the

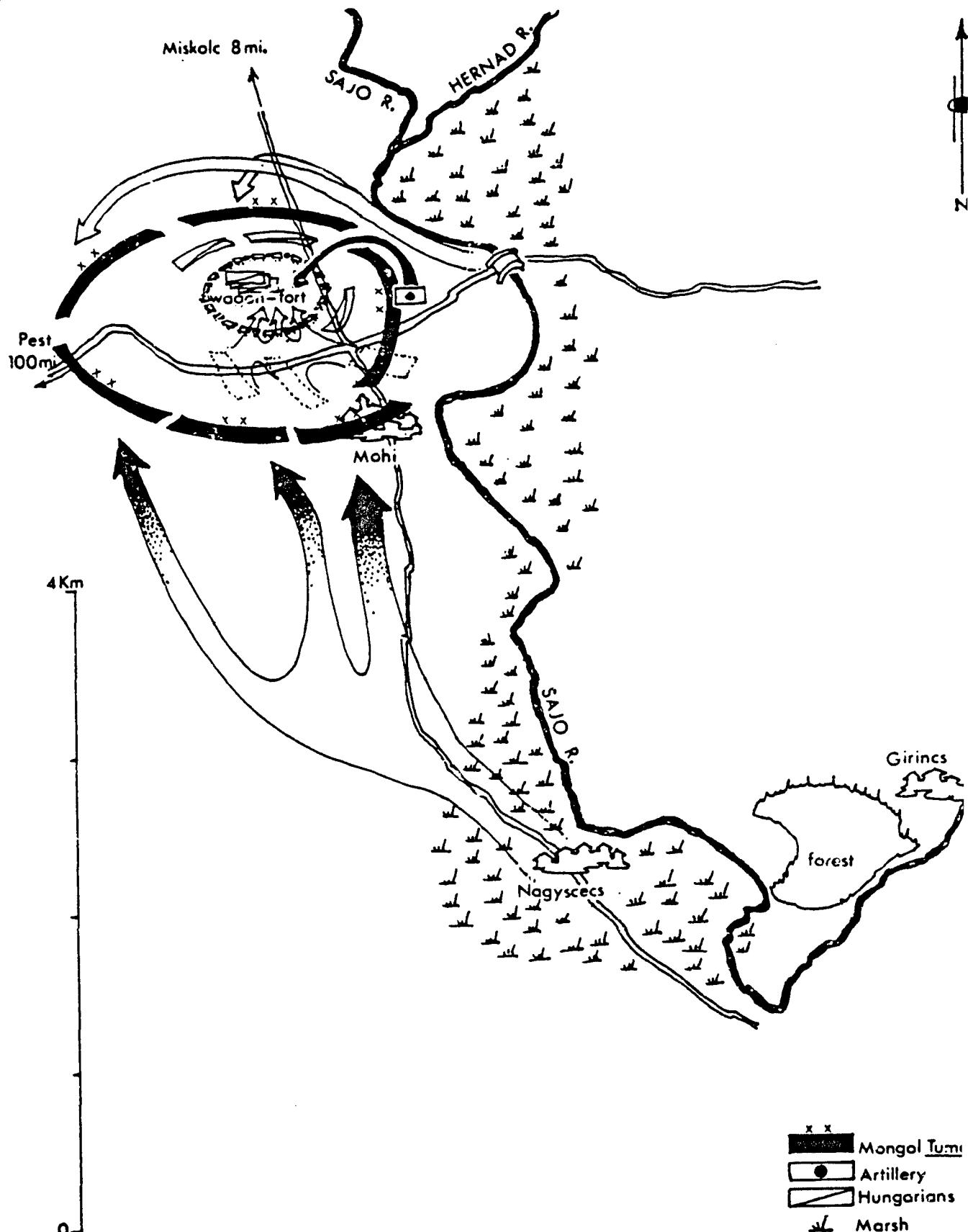


princes wish to retreat they may do so but for my part I am resolved not to return until I have reached Pest and the Danube."<sup>50</sup>

Batu and his general staff must have been shamed by their lack of vision and Genghis, now in his grave for fourteen years, probably turned over. Subedei obviously swayed the Mongol leadership since they stayed to complete the Hungarians' annihilation.

Inside the bastion, King Bela and his now tenuous allies were searching for a solution to their predicament. They knew the Mongols could eventually batter them into submission with their siege weapons, so Koloman, Bela's brother, gathered a valorous force to try and pierce the circle and destroy the catapults. They failed (Map Ten). The bombardment, directed by Batu, continued and eventually set fire to most of the wagons and paraphernalia in the bastion. Concurrently, Subedei reformed the westernmost tumen of the encircling army into an attack formation, opening a gap astride the road back to Pest. Again the Mongol use of deception would prove fatal for the foe. Grossly underestimating the remaining combat power of the steppe warriors, the Hungarian cavalry made for the gap leaving the French Templar Knights, Koloman's cavalry, and the forces of Archbishop Hugolin to meet Subedei's charge.

These dedicated soldiers formed a wedge to try and make the Mongol cavalry split themselves, like a log being driven against a woodsman's wedge. They very quickly felt the terrible devastation of the Mongol arrow



MAP TEN  
THE CIRCLE IS COMPLETE

storm which doctrinally preceded a cavalry charge. Broken and dying from the hail of armor-piercing arrows, the remnants of the once powerful Hungarian army met the charge of the heavy Mongol cavalry. "Once again, as their brothers had done two days before at Liegnitz, the Templars died to a man."<sup>51</sup> Assuredly, as he surveyed the smoking ruins of the Hungarian wagon-fort and the heaped bodies of the Templars and Hungarians in the wedge, Subudei must have praised their fighting prowess, courage, and tenacity. Not since Ghora Tarap had the Mongols fought a force so well disciplined in the face of catastrophic defeat.

Behind Subedei, all the way to Pest, the Mongol light cavalry hounded the deceived Hungarians now fleeing for the safety of the Danube. Leisurely riding along both sides of the road, the Mongol light archers completed the bloody destruction of the once powerful army. Chambers estimates the Hungarian dead as 60,000 out of the initial strength of near 100,000.

The Battle of the Sajo River was not the end of Mongol devastation in Europe. For another year, they ravaged Europe all the way to the outskirts of Vienna. Only because of the death of Ogedei, grand architect of the European campaign, were the tumens recalled to the steppe so the Mongol leadership could elect a new Khan. Europe was saved and the barbarians never returned.

Whether the Europeans ever learned the valuable lessons discovered by Father Carpini is debateable. They would not encounter again so terrible

and swift an enemy as the Mongols. If the references to similarities between the blitzkrieg and Mongol operational strategy are of value, then Europe would, in fact, again relearn the lessons of 1241 but this time at the hands of a European "scourge of God."

## CHAPTER 5

### CONCLUSIONS AND RECOMMENDATIONS

#### PART I

##### CONCLUSIONS

Jenghiz Khan would not hear of raising the siege. Faith in his white standard with the falcon, in his tutelary spirit, in the nine-tailed emblem of the Khakan, must not be shaken on any account, so he had recourse to one of his amazing strokes of cunning.

He sent a message to the commandant of the fortress saying that he would raise the siege upon the delivery of one thousand cats and ten thousand swallows. Astonished though he was at the strange request, the general hunted up all the cats and netted all the swallows in the town, and delivered the desired quota to the Mongols, taking the precaution not to open the gates of the town when doing so. Now Jenghiz Khan had no further need of open gates. He commanded his men to tie a tuft of cotton-wool to the tail of every cat and every swallow, to light these impedimenta, and to turn the beasts and the birds loose. The affrighted swallows sought their nests and the enraged and bewildered cats made for their lairs. The inhabitants of the city gained nothing by killing a few of these fire-bearers. The town was ablaze in hundreds of places at once, and, while the conflagrations raged, the Mongols stormed the city.<sup>1</sup>

One of the primary efforts of this thesis was to dispel some of the myth surrounding the Mongol warrior epic. The story told above is just that, a myth. Yet even today scholars continue to write about the burning of Volohai, a fortress of the Hsi-Hsi, as if it were fact. Without even researching the size of Volchai, or its population, the ability of the Chinese defenders of Volohai to find ten thousand swallows inside a city

already ravaged by fighting and mayhem would have been impossible. Simple airflow alone also dictates that a bird with a ball of fire on its tail will not arrive at its nest, if that is really where the bird went, with its tail afire. The flow of air over the tuft of cotton-wool would have either burned up the bird or put the flame out. Hopefully this thesis has cleared the smoke which obscures a little read or understood military organization, led by brilliant commanders using every trick of war and always searching for the advantage of terrain, timing, and surprise. Using maneuver-oriented tactical doctrine, they would devastate almost every force they ever met in the field, except for two battles in the Persian campaign. In application of siege warfare doctrine, which began after the devastation of Volohai, they were unequalled in the Middle Ages.

For all their success in sophisticated military operations, however, the specter of barbarian hordes rampaging across Eurasia in a blind fury of destruction and brutality is difficult to exorcise. Hopefully, this thesis has removed some of the stigma. Not all of the perceptions of Mongol savagery are entirely unwarranted. Indeed they sometimes proved quite uncivilized in the treatment of prisoners of war and captured civilians, including refugees. But the discriminating word in this previous sentence is uncivilized. Conduct categorized as uncivilized by detached observers has little to do with conduct deemed uncivilized by thirteenth century standards. The Mongols, their enemies, and allies were men of their time, nothing more or less. If that premise is understood, the brutality and terrible slaughter are brought into perspective. At the core of it all is the individual steppe warrior and his values.

Motivated to fight for several reasons, the steppe warrior became the most formidable soldier of the Eurasian theater. Well led, with supreme confidence in his commanders, the nomad proved the mark of soldierly qualities. Self disciplined, an expert with his weapons, and by his nature, he required little supervision in the maintenance of his weapons and horse. Loyalty to his ten man squad all the way to the Supreme Khan knew no peer. Agreeably this condition took years to solidify and was not so in the early years of the Mongol rise to power. So dedicated was the steppe warrior, however, that when Genghis had decided upon a bold move to disrupt the Kerait army, he called for volunteers for a special mission and without hesitation could give the following orders to the fifty he selected.

You will infiltrate the units of the Charite [Kerait] vanguard and attack the main force over 20,000 warriors. None of you will be taken prisoner and none of you will return. You will continue to cut down the enemy warriors until the last of you has fallen in battle.<sup>2</sup>

Discounting the number of Keraits as probably inflated, the fact that Genghis could issue such orders is evidence that his soldiers' devotion was beyond simple blind obedience. Only a truly dedicated and loyal soldier would willingly volunteer for such a task.

If the individual steppe warrior was highly motivated, so were the leaders. Participating in a system of merit-based promotions, the Mongol commanders applied their leadership skills in an environment allowing maximum initiative with central direction minimized. Free to direct their forces as their tactical acumen saw the situation develop, they capitalized

on the speed of their combat forces and devastating accuracy of their weapons. Significantly, the Mongol commander could "see" the battlefield better than any of his foes, probably before or since. By constant scouting and the habitual use of long range arrow-messengers, the Mongol leadership knew exactly what was going on everywhere. It was when this "deep battle" asset was either improperly used or in the incorrect position that Mongol leadership suffered its only two defeats. In Persia, at the Fergana Valley and Parwan, the scout system failed to provide the real time intelligence so absolutely essential to the mobile warfare practiced by the Mongols, and they failed to carry the day. Throughout the campaigns across Eurasia, however, Mongol leadership evolved into a core of brilliant strategists and tacticians, matched by few who preceded or followed them.

The Mongol organization evolved also. From pure cavalry (prior to 1211) the first Chinese campaign saw the addition of an artillery corps and

mounted infantry now made its appearance in the Mongol ranks and soon reached an efficiency on foot surpassed by no Asiatic or European foe. They were adept at quickly dismounting and making full use of their weapons. They would then agilely spring up behind horsemen sent forward for that purpose, and thus retain freedom of action.<sup>3</sup>

Generally though, Mongol organization for combat retained its cavalry base with infantry action conducted on an as-needed basis.

Realistic and tough training was the rule rather than the exception. The steppe warrior trained hard and played hard, also. The sham-fight and

great hunt became normal training as the years went by and even these incredibly strong and disciplined warriors sometimes needed training that went beyond the norm. When preparing for the Persian campaign, the Mongol leadership saw that the reserve soldiers, mobilized recently for the campaign, were not quite ready for the task at hand. So concerned was Genghis that he decided to train these reserves by Mangudai standards, which were brutally high standards for even the simplest maneuvers. Since time was short and the reserves required a rapid training exercise, he issued these orders.

'Tomorrow we are going out with the whole force for desert training,' said Genghis Khan, 'we will not take any food with us except for water, and we will not return to the camp until the reserve units have learned the control signals and have attained the level of performance of the regular units. Ensure prior to leaving that the men have no Komis (an intoxicating beverage) and no food and tell them that by my order they are not to open the veins of the horses and drink their blood. Remind the reserve personnel that the penalty for not carrying out the order is death.'

During this three day exercise the reserve forces went from a rather dull arrangement of half-motivated warriors to quality soldiers fit to serve anywhere in the Khan's army.

The control system of the Mongol military machine was so precise and well understood that these now well trained reserve units could have gone to any army and responded rapidly to orders transmitted via any control system. Whether flag, fire-arrow, or audible signal, the control system, including the scouts, was a remarkably simple yet effective one. This

thesis suffers, primarily because there is no direct evidence in the research, for detail on exactly what the system's signals meant.

Logistics was simple also. As long as the nomad horse was available so was food. The horse provided the steppe warrior with all he needed to both move, shoot, and communicate. Only after the burdensome requirements of siege warfare were added did the Mongol logistic system grow to any appreciable size and complexity.

The hallmark of the Mongol warrior epic was their understanding and appreciation of sound strategic planning, based on detailed intelligence, then the brilliant use of maneuver tactics to defeat the enemy in the field. Campaign planning began with the Mongol intelligence system reporting to the war council who planned the campaign to its end. This council, composed of veteran commanders and princes of the House of Genghis, designed the coming attack, never the defense.<sup>5</sup> The Supreme Khan directed the strategic planning but "decided nothing before consulting with the eleven officers of his general staff."<sup>6</sup> The Mongol general staff system, briefly described and analyzed in this thesis, must have been a group of remarkably talented officers. The ability of this organization to plan a campaign and see the battlefields upon which they would fight, thousands of miles away, without maps, almost staggers the imagination. Were they practicing "deep battle" 700 years ago?

If they weren't, Mongol leadership were masters of maneuver warfare then. Fighting a positional offense only when driven to it, the steppe warrior never forgot the value of maneuver. The pages of history are replete with examples of maneuver warfare oriented leaders but none can compare with these allegedly barbaric, uncivilized horse soldiers from the barren steppes of Asia. This thesis only glances over four operations in the different theaters of war in which the Mongols fought. Perhaps because these warriors could fight one day in ice and snow at 12,000 feet above sea level and the next day in blistering heat and sandstorms of the Arabian desert, caused the majority of their enemies to think there were actually two armies in the field when in reality there was only one.

The Mongol leadership understood both their men and their limitations. Never forgetting these prime considerations, they habitually practiced all the principles of war with emphasis on surprise, cooperation, maintenance of the objective, simplicity, and most importantly, maneuver. They did all these things due to the vision of one man who trained them all. An illiterate nomad to his death, Genghis Khan knew war, his men, and what his objective was. The philosophical discussions of the virtue of his grand design are left to other works but, as C. C. Walker tells us

In vision also, Jenghiz Khan is one of the great figures of history. Alexander and his phalanx cannot compare with this nomad chieftain who watered his horses at the tip of the Shantung Peninsula, by the surf-swept beaches of the Arabian Sea and in the Dnieper. The brain becomes bewildered by the tremendous distances covered in his campaigns, only excelled again by those of his great subordinates, Chepe Noyon and Subutai.<sup>7</sup>

Overall then, the Mongol warrior epic was more than an explosion of teeming masses upon Eurasia, ignited by an unsophisticated savage. It was an episode of history marked by brilliant strategem, deliberate evaluation of the principles of war, thoughtful reflection on tactical doctrine and its evolution, and perhaps most importantly, a true understanding of the primacy of talented leadership. These phenomenal commanders of the steppe warrior armies must rank among the very finest of history.

## PART TWO

### RECOMMENDATIONS

This thesis has covered some ground which other scholars have reviewed before. Demographic, economic, geographic, and societal analyses of the Mongol epic are not in short supply. The new ground covered here centered around Chapter Three - Organization, Training, and Control. Chapter Four served to illuminate and in some instances try and correct inaccurate renditions of Mongol battles. Recommendations for this thesis, however, concern two areas.

A more definitive and detailed reconstruction of the Mongol general staff is in order. The groundwork done here hopefully will provide a reasonably accurate base for further investigation of the general staff system and how it might have worked.

Second, the control system requires amplification. If sources can be found which explain the meaning of the various tactical control signals, the resulting facts will only serve to illuminate a very fascinating system of unit control.

**APPENDIX ONE**

### The Mongol Yassa

The Yassa was Genghis's Code of Conduct, written in Uighur script, designed to formalize the behavior of his people, both kin and conquered. Richard DeVereaux gives a valuable interpretation of the Yassa, especially as it applied to soldiers. Bertold Spuler provides a review of nine of the laws set forth in the Yassa, and hints of two more. A complete understanding of the Yassa is impossible without a review of two older works by Spuler published in 1890 and 1912. Neither of these were available during the research. Remarks to the laws, as written in Spuler, follow each entry.

1. If it is necessary to write to rebels or send messengers to them they shall not be intimidated by an excessive display of confidence on our part or by the size of our army, but they shall merely be told: if you submit you will find peace and benevolence. But if you continue to resist--what then do we know about your future ? Only God knows what then will become of you. In this the Mongols show confidence based on the Lord; through this they have been and will be victorious.

Whether this first law of the Yassa was the greatest in the eyes of Genghis and his people is unknown. It would have gone much better for their enemies if they (the enemies) had believed it was. Throughout the Mongol campaigns it proved generally true that if an enemy submitted, then it would probably go better than if they resisted. This law must have served as a basic legitimizing factor for Genghis in his vision of world rule. Interestingly, it can be construed that Genghis relinquished any personal responsibility for his own cruelty and destruction if the enemy

resisted. The fact that "only God knows what then will become of you" probably serves to shift responsibility from him to "God."

2. The pure, the innocent, the just, the learned and the wise of every people shall be respected and honored; the bad and the unjust shall be despised.

Whether the Mongols truly believed this law or not is unclear. Their actions prove they probably didn't. The innocent as well as the bad and unjust were destroyed together. Generally the learned and wise, along with young women, were spared for selfish reasons. Complete destruction of entire cities and towns lends credence to the estimate that this law was not strictly adhered to.

3. The rulers and the members of the class of leaders shall not be given any grandiose names as is the custom with other people, especially the Muslims. The occupant of the throne deserves only one title: Khan or Qā'ān. His brother and his other relatives shall simply be called by their proper names.

Genghis, as opposed to his successors, deplored pomposity and royal trappings. Generally, he alone retained a simple lifestyle, remaining in his yurt throughout his life. This law must have served to not only check a tendency to use grandiose names but also to insure a warrior with visions of glory and kingship would think twice before assuming a royal title. Such a title would automatically brand him as a usurper, easily marked for destruction by the all-powerful Khan.

4. When there is no war raging against the enemy, there shall be hunting; the young shall be taught how to kill wild animals, so that they become accustomed to fighting, and acquire strength and endurance, and will subsequently fight, without sparing themselves, against the enemy as though against wild animals.

This law served to institutionalize the "great hunt" as a training exercise and alludes to warrior conduct in battle.

5. Soldiers shall not be less than twenty years old. They shall be organized in groups of ten, a hundred, a thousand and ten thousand men.

Here Genghis establishes the warrior's basic age requirement and the decimal system of organization for combat. Probably the twenty year age limit insured both able bodied warriors (17-20) remained near the families for local defense and retained skilled herdsmen while the armies were on campaign.

6. Each Mongol tribe shall contribute to the upkeep of the Khan from their annual surpluses and they shall provide him with horses, rams, milk and woolens.

The Mongol tax system, at least initially, was very simple. In later years when occupation of conquered territories required more detailed administrative rules, this law proved too simple.

7. Nobody shall leave the unit of a thousand, a hundred or ten to which he is assigned. Otherwise he himself, and the leader of the unit that has accepted him, shall be executed.

In this very simple rule Genghis fixed both personal responsibility to the unit and the leaders' responsibility to the warrior. Devereaux provides a more detailed analysis of the soldier-oriented rules of the Yassa.

8. Every two miles there shall be staging posts with horses for envoys in transit.

This very simple guidance on preparation of the communication system must have all that was required for the G2 ("far and near arrows staff officer") to accomplish his duties. Whether the campaign went east to China, Korea, and Japan, or west to Persia and Europe, the system would have the posts every two miles. Probably the system of yams did not strictly adhere to this law, as terrain, bandit strength, and duration of the campaign influenced the distance between the staging posts.

9. The Khan shall not take anything from the estate of a man who dies without heirs; such a man's property shall pass to the person who has looked after him.

The source of this law is not known. Undoubtedly though this law served as notice to all his leaders that their efforts would not be in vain. If there was no security for a man who fought with the Khan, providing protection for his hard won treasure, Genghis could not have retained their loyalty for very long, or the loyalty of the man's descendants. Exactly why the law refers to only a man "without heirs" is unclear. Maybe inheritance of a man's treasure by surviving heirs was an unwritten law.

Spuler alludes to two other laws. One dealt with religious tolerance, the other about selection of captured girls for the ruler and his officers.

While the Yassa can be viewed as a self-serving device for the Khan it is really much more than that. Granted parts of it are blatant dictums providing for the greed of the man in power, as a whole it was a remarkable work. Genghis realized he had to educate his people on his personal stand-

ards of behavior. He used the Yassa to accomplish the task and it served cultures well beyond the Mongol empire. Tamerlane adhered to it as did Baber of the Moghul dynasty of India. Its greatest value was to stabilize the rather uncertain environment of 12th and 13th century Eurasia. Only by exhaustive research can the full affect of the Yassa on Eurasian cultures be determined.

One affect, probably based in part on pure myth, survived for many years. It was said that after the Yassa had been in effect for a few years, that a virgin could walk from the Pacific Ocean to the Black Sea with a pack of gold on her back, unmolested. Except for the bold, audacious, and assuredly infrequent bandit, the general populace of the Mongol empire probably believed it was true. Without arguing the fiarness of the penalty of death for most offenses punishable by the Yassa, the Code of Conduct devinitely served its purpose in the environment for which it was created and served as a model for cultures which followed the Mongols.

**APPENDIX TWO**

## WHERE WAS THE BATTLE ON THE INDUS?

Of the five scholars researched, none are in complete agreement with each other on where this decisive battle took place. The confusion results, in part, from an incomplete reporting of the events as they occurred over 750 years ago. Understanding this limitation, what follows is an analysis of the divergent thoughts with a conclusion based on a detailed study of the sources and the terrain. Influencing the conclusion is an appreciation for the missions of the opposing forces, their strengths, and intentions. There is no intent to claim the conclusion is absolutely correct. The claim is that the conclusion is a reasonable deduction.

There is no disagreement among scholars as to the general area of the battle. C. C. Walker, Ralph Fox, Michael Prawdin, W. Barthold, and Harold Lamb all put the battle somewhere on the west bank of the Indus river. Of these five, only two address the specific location of the battle. C. C. Walker claims (in footnote without citing any source) that the battle occurred near a place called Kalabagh. Barthold, citing a Major Raverty as his source, believes it happened at a place called Ghora Tarap. Barthold does not believe the Persian historian Juzjanis' placement of the battle at Peshawar. There are several key factors which lend credence to Barthold's citation over Walker's.

The different versions of the battle are consistent in placement of the Persians on the terrain. All scholars agree that the Persian left was

anchored on high ground (variously called hills, mountain, or ridges), and with their right tied into the Indus river. The area chosen by Walker does not support such an arrangement. His location puts 20,000 Persians and at least twice as many Mongols in an area which is very rugged, mountainous and with absolutely no room for horse maneuvers. No one could have charged or counterattacked in the area above Kalabagh as the mountains run directly into the Indus river. South of Kalabagh there are no hills or ridges to anchor onto and still have the Persian right flank on the river. The only way the area to the south of Kalabagh could possibly have been the battle-field would be if the Mongols had been pursuing from the north (out of the Khyber Pass, then south). No historian depicts this route. All say the Mongols pursued from the south. North of Kalabagh the terrain does not support such a Persian arrangement. A very large mountain with generally clear but steep slopes bounds the west bank of the Indus for twenty miles. This area also denies maneuver warfare.

The other area offers more logical terrain for the battle. Just east of Peshawar, where the Kabul and Indus rivers join are two large valleys fenced with large ridgelines running from the mountains that form the boundary between present day Afghanistan and Pakistan. The terrain in this great bend of the rivers offers a realistic place for the Persians to defend with their left flank on a ridgeline and their right on the river. The terrain around Peshawar (where the Persian historian Juzjani says the battle occurred) is a huge valley. There is ample area here for the larger Mongol force to maneuver to the flank of the Persians, unrestricted by

mountains or ridgelines. It is this wide open space without natural anchors that reduces the possibility that the battle occurred here. The one possible exception is that if the Persians had defended in the extreme eastern end of the valley, they could have had their left on a ridgeline and their right on the river. If fought here, however, Jelaladin would have jumped into the Kabul River, not the Indus.

Just south of the Peshawar valley though is another smaller valley which is surrounded on three sides by high ground and in the southeast by the Indus river. At the area where the Indus turns south again (after passing around these mountains) there is a place called the Ghora Tarap, or Horse's Leap. This place exists today on current maps. Barthold's belief in Raverty's estimate that the battle occurred here is most logically correct. It is so for several reasons.

Here there are several hills very close to, and rising 600 feet above, the Indus river which would prove excellent dominating terrain in a defense. Here the Persian left would have been anchored on a ridgeline which rises 1,680 feet above the valley floor. On the right there is a natural bend in the Indus which would serve the purpose of anchoring their right flank. The mountains (and passes through them) to the west, north, and east of this small valley, if held by the enemy, seal the defender in and form an almost perfect encirclement. All scholars agree the Persians were trapped by the Mongols with no escape route, save jumping into the Indus.

The Ghora Tarap, literally the Horse's Leap, is where Jelaladin galloped off the bank into the Indus to escape the Mongols. Whether the historian who named this place is in error is not known. Analysis of the terrain and a reconstruction of historians accounts of the battle lead to the conclusion that this final battle of maneuver in Persia occurred here.

END NOTES

## PREFACE

1. Henry D. Martin, The Rise of Chingis Khan and the Conquest of North China, p 89-90.

## CHAPTER 1 - The Soldiers From Tartarus

1. J. J. Saunders, The History of the Mongol Conquests, p 211, Note 4.
2. Harold Lamb, Genghis Khan, The Emperor of All Men, p 24.
3. Random House Dictionary, p 432.
4. Funk and Wagnalls Dictionary, p 1181.
5. Michael Prawdin, The Mongol Empire, p 217.
6. Ethan Harlew, Facing Death as a Way of Life, p 3.
7. James Chambers, The Devil's Horsemen, p 63.
8. Demenghem, Muhammad and the Islamic Experience, p 36.
9. Cureton, Field Artillery Journal, p 701.
10. Peter Brent, The Mongol Empire, p 36.
11. C. C. Walker, Canadian Defence Quarterly, Vol 9, p 485-486.

## CHAPTER 2 - Leadership in the Mongol Epic

1. Henry Martin, The Rise of Chingis Khan, p 43.  
There is some confusion in the research works as to whom Genghis is referring in the quote. Martin says that the hero is Yisunbeg, while Harold Lamb, a generally unimpeachable source, uses a very similar quote, with minor changes in the thought expressed, but refers instead to a certain Yessutai (sic). Ethan Harlew cites a larger quote, strikingly similar to Lamb's but it concludes with the comment that Yasotay

(sic) is a good commander for another kind of unit, vice a regular line brigade. This "other" brigade is the Mangoday brigade.

2. Peter Brent, The Mongol Empire, p 36.
3. Thomas Arms, The Perfect Warrior, p 233.
4. Boris Vladimirtsov, The Life of Genghis Khan, p 15.
5. George Vernadsky, The Mongols and Russia, p 21-22.
6. Charles H. L. Johnston, Famous Cavalry Leaders, p 36-37.
7. de Rachewiltz, Papers on Far Eastern History, p 28.
8. Ibid, p 29.
9. Harold Lamb, The Infantry Journal Leader, p 363.
10. Barthold, Turkestan Down to the Mongol Invasion, p 460.
11. Ralph Fox, Genghis Khan, p 215-216.
12. C. C. Walker, Canadian Defence Quarterly, Vol 9, p 66.
13. J. J. Saunders, The History of the Mongol Conquests, p 66.
14. Lamb, The Infantry Journal Reader, p 362.
15. Ibid, p 363.

### CHAPTER 3 - Organization, Training, and Control

#### PART I - Organization for Combat

1. Mark Elvin, The Pattern of the Chinese Past, p 56.
2. Ibid, p 34.
3. Ibid, p 84.
4. Ibid, p 57.
5. Henry Martin, The Rise of Chingis Khan, p 13.
6. Trevor N. DuPuy, Military Life of Genghis Khan, p XIV.

7. W. H. Cureton, Field Artillery Journal, p 698.  
Interestingly, William of Rubrick, a European observer of Mongol operations, says that the name tumen, describing an organization of ten thousand men, means "darkness" in Mongolian. Assuredly the tumens of Genghis Khan spread darkness all over the face of Eurasia but then only to let the light shine through eventually.
8. Henry Martin, The Rise of Chingis Khan, p 22.
9. Peter Brent, The Mongol Empire, p 46.
10. W. Barthold, Turkestan Down to the Mongol Invasion, p 382-383.
11. Harold Lamb, Infantry Journal Reader, p 369.

#### PART II - Training For War

12. Michael Prawdin, The Mongol Empire, p 110.
13. Ibid, p 44.
14. George Vernadsky, A History of Russia, Vol 3, p 114.  
Peter Brent is more explicit in describing the "bewildered, roaring animals" than Vernadsky. Brent says that there were tigers, great boars, leopards, and bears all crowded in the ring. Along with these predators were the usual assortment of the plains smaller animals like wolves and wild dogs. To try and imagine this mass of frightened and also enraged animal life, running, leaping, and probably killing each other in the terrible confusion, is almost impossible.
15. W. H. Cureton, Field Artillery Journal, Vol 19, p 699.
16. George Vernadsky, A History of Russia, Vol 3, p 114.
17. Ibid, p 112.
18. W. H. Cureton, Field Artillery Journal, Vol 19, p 699.
19. W. Barthold, Turkestan Down to the Mongol Invasion, p 433-434.
20. Owen Lattimore, Scientific American, p 68.
21. James Chambers, The Devil's Horsemen, p 59.

#### PART III - Control of the Battle

22. Richard Devereaux, Military Review, p 26.
23. Michael Prawdin, The Mongol Empire, p 69.

24. Richard Devereaux, Military Review, p 30.
25. Division of the levels of control into tactical and operational, instead of tactical and strategic was done so that military readers can associate these terms, as applied to the Mongols, with current U. S. Army doctrine. This doctrine divides control of operations into three levels; tactical, operational, and strategic. Mongol strategic control was established during the campaign planning. After the force began the march, the control techniques used are more appropriately categorized as operational (Army to Corps to Division), rather than strategic. There is no essential difference in the type of tactical controls used by either the U. S. Army today and the Mongols of the thirteenth century, methods obviously have changed (i.e. radio).
26. C. C. Walker, Canadian Defence Quarterly, Vol 9, p 497.
27. Nakaba Yamada, Ghenko, the Mongol Invasion of Japan, p 112.
28. James Chambers, The Devil's Horsemen, p 62.
29. Ibid, p 61.
30. C. C. Walker, Canadian Defence Quarterly, Vol 10, p 31.
31. Peter Brent, The Mongol Empire, p 31.
32. W. E. Henthorn, Korea, The Mongol Invasion, p 210.

#### PART IV - Sustaining The Fight

33. Richard Lister, Genghis Khan, p 120.
34. Robert Laffont, The Ancient Art of Warfare, p 283.
35. Henry Martin, The Rise of Chingis Khan, p 18.
36. Robert Laffont, The Ancient Art of Warfare, p 286.
37. George Vernadsky, The Mongols and Russia, p 118.

#### CHAPTER 4 - Mongol Tactics

##### PART I - The Gimlet

1. Peter Brent, The Mongol Empire of Genghis Khan, p 41.
2. Liddell Hart, Great Captains Unveiled, p 7.

3. Ibid, p 9-10.
4. Lynn Montross, War Through the Ages, p 152.
5. Ibid, p 153.
6. Robert Laffont, The Ancient Art of Warfare, p 286.
7. Mark Elvin, The Pattern of the Chinese Past, p 88-89.
8. George Vernadsky, The Mongols and Russia, p 117.  
Distances given are approximate only. Actual distances based on terrain. Organization of center arm in parallel columns is not necessarily typical. The six squadrons could be in two groups of three in column or variations of same based on terrain, enemy, and speed of march.
9. Robert Laffont, The Ancient Art of Warfare, p 286.
10. James Chambers, The Devil's Horsemen, p 63.
11. Robert Laffont, The Ancient Art of Warfare, p 256.
12. Lynn Montross, War Through the Ages, p 154.

#### PART II - Battle With the Taijiut

13. Michael Prawdin, The Mongol Empire, p 45.
14. Ibid, p 46.
15. Ibid, p 47.
16. Ibid, p 47.
17. Ibid, p 46.

#### PART III - Battle of the Yang-Ho Valley

18. Henry Martin, The Rise of Chingis Khan, p 121.
19. The center of mass of the Yang-Ho valley is 40°30' N/115°15' E. Map sheets used in terrain analysis are Joint Operations Graphics, series 1501. Most important sheets required to identify Yang-Ho valley and environs are (in priority required); NK 50-10, NK 50-11, NJ 50-2, and NJ 50-1. Scale of these sheets is 1:250,000, which is adequate.
20. Ibid, p 158.
21. Ibid, p 159.

22. Ibid, p 159.
23. The rationale for this number of warriors is based on Martin's discussion of the total strength of the Mongol Army in 1211, when the Chinese invasion began. Martin says the Right Wing of the Army was 40,000 strong. The Center and Left Army together was 70,000. Since Genghis would obviously command the larger of the two armies, (using round numbers) the Center Army would have to be 40,000, while the Left Wing Army would be the lesser strength of 30,000. Deducting warriors who served in the Khan's guard and the rear guard which was never committed, an adjusted combat strength of 34,000 combat warriors is logical. A more accurate figure could possibly be reached if a detailed investigation of the size of the guard, in September of 1213, was conducted. This analysis assumes the guard to be about 5,000 strong (five regiments) and the rear guard regiment being 1,000 warriors. There is nothing in these equations which discounts forces left to clean up the devastation of Hsuan-Hua. Presumably the rear guard and logistic train would see to that task.
24. Henry Martin, The Rise of Chingis Khan, p 159.
25. Ibid, p 159. Caltrops were a four legged spike device with the legs arranged so that when thrown to the ground at least one of the spikes would be sticking straight up. These were devastating weapons, able to pierce the hooves of cavalry horses with ease. It was impossible to charge through a caltrop field without taking terrible losses.

#### PART IV - Battle of the Ghora Tarap

26. Michael Prawdin, The Mongol Empire, p 161.
27. C. C. Walker, Canadian Defence Quarterly, Vol 9, p 356.
28. Ibid, Vol 10, p 34. For an appreciation of the terrain use Joint Operations Graphics, 1:250,000. Series 1501, sheets 42-11, 42-12, 42-15, 42-16, and 43-9.
29. Ibid, Vol 10, p 34.
30. Ralph Fox, Genghis Khan, p 216.
31. C. C. Walker, Canadian Defence Quarterly, Vol 10, p 39, Note 13.
32. Harold Lamb, Genghis Khan, p 173.
33. W. Barthold, Turkestan Down to the Mongol Invasion, p 446.
34. Michael Prawdin, The Mongol Empire, p 197.
35. Ibid, p 197.

## PART V - Battle of the Saio River

36. Harold Lamb, Genghis Khan, p 220.
37. W. H. Cureton, Field Artillery Journal, Vol 19, p 705.
38. Harold Lamb, The Infantry Journal Reader, p 366.
39. Harold Lamb says the Hungarian advance to Mohi took six days, while Michael Prawdin says it took four days. Assuming the Hungarians marched to the south of the Matra and Bukk mountain ranges along the traditional road between Budapest and Miskolc, the route is 100 miles. With a 100,000 man army, traveling at a "hands pace," according to Harold Lamb in Genghis Khan, the daily advance could have been no faster than fifteen or sixteen miles a day. Therefore, the four day movement is not likely. Six days to travel about 100 miles is more logical.
40. James Chambers, The Devil's Horsemen, p 101.
41. Liddell Hart, Great Captains Unveiled, p 26.
42. S. R. Trunbull, The Mongols, p 37.  
Not only are space and time illogical but numbers of soldiers present at the battle are suspect. Komjathy gives only 60,000 for the allied army while almost all others cite around 100,000. The Chinese theater might be as questionable. The problem lies in historians, both east and west, rounding off the figures for convenience or because of lack of details on actual numbers. Whether the Hungarians could have mustered 100,000 effective soldiers is open to debate. It is possible that this figure includes the traveling circus that accompanied almost any European monarch on campaign. Certainly the entourage of grooms and assistants to the heavily armored European knights might have been added to the total, thereby giving an unrealistically high number of soldiers. Only by years of research can the true approximate be reached. For this thesis, however, the generally accepted, although probably incorrect, numbers are used.
43. James Chambers, The Devil's Horsemen, p 101.  
Harold Lamb, in Genghis Khan, says the Mongols went some five miles beyond the river. Neither Chambers nor Lamb cites their source but the five mile figure seems too short. The hills and vineyards to the west of Mohi do not begin to assume any height until ten miles beyond the river and assuredly the Mongols would not bivouac on easily attacked terrain. The thickets in the low ground may have provided some concealment but probably not enough for six tumens. Therefore, the ten mile figure is more logically correct.
44. Ibid, p 102. The map source used in this analysis were Joint Operations Graphic (Ground), 1:250,000, Series 1501, sheets NL 34-2 and NM 34-11.

Mohi is just west of the intersection 21°00' E, 48°00' N. Turnbull's work places the crossing site much too close to the bridge. Either the original work by Spuner-Menke was modified to fit the book or the scale of the Turnbull map was incorrectly assessed. The placement of the crossing site only 750 meters southeast of the bridge at Mohi cannot be correct. The marshes of the Sajo and proximity to the Hungarian main body make this area entirely unsuitable for the crossing. The crossing area identified in Chambers is more realistic, being over four kilometers from the bridge and concealed by a forest. Undoubtedly in the intervening 700 years much of the forest has been whittled away but today there is still a fairly large portion of forest remaining between Girincs and Nagycsecs.

Additionally, there are two very divergent opinions on where the Mongols crossed. E. W. Sheppard, without citing his source, says the Mongols crossed up-stream of the Mohi bridge, beyond the Hungarian left. Chambers and Prawdin say (as the map in Turnbull shows) that they crossed downstream of the Mohi bridge. Neither Chambers nor Prawdin cite their source. Howorth says nothing of their direction and gives the event only half a sentence in his work. Since none of these scholars cite a source and Howorth gives no details of the fight, Howorth cannot be the source. With two to one saying they crossed in the south and Chambers appearing to give the most lucid account, it is assumed they crossed there. Terrain dictates a southern crossing also. If the Mongols had crossed in the north they would have had to cross both the Hernad and the Sajo. No scholar cites two river crossings. Therefore, the logic of a southern crossing of only the Sajo is sound.

45. Michael Prawdin, The Mongol Empire, p 263. Harold Lamb says it was an escaped prisoner, but gives no nationality.
46. James Chambers, The Devil's Horsemen, p 102.
47. Liddell Hart, Great Captains Unveiled, p 28.
48. James Chambers, The Devil's Horsemen, p 102.
49. Ibid, p 102.
50. Ibid, p 103.
51. Ibid, p 103.

## CHAPTER 5 - Conclusions and Recommendations

### PART V - Conclusions

1. Michael Prawdin, The Mongol Empire, p 107-108.
2. Ethen Harlew, Facing Death As A Way of Life, p 7.
3. W. H. Cureton, Field Artillery Journal, Vol 19, p 699.
4. Ethan Harlew, Facing Death As A Way of Life, p 72.
5. Harold Lamb, The Infantry Journal Reader, p 365.
6. Robert Laffont, The Ancient Art of Warfare, p 286.
7. C. C. Walker, Canadian Defence Quarterly, Vol 10, p 168.

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